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**Organizational Procedures**

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# Administration of the Driver Education Program

## Role of the State Department of Education

The State Department of Education is to supervise and direct the performance-based driver and traffic safety education and safety programs in the school systems of the state of Alabama.

The chief administrative officer of the State Department of Education is the State Superintendent of Education. It is his duty to administer this State Plan as the administrative officer of the State Department of Education.

## Minimum Standards for High School Driver Education Teachers

### Driver and Traffic Safety Education Instructor Qualifications

Each instructor shall have at least a valid Rank II Alabama Professional Educator Certificate, with a traffic safety education (G-3) endorsement, valid for teaching in Alabama high schools.

Each school system shall establish policies, which will insure that the instructor has no physical qualities that would endanger students or other highway users. Each instructor shall have a valid Alabama driver's license.

Each instructor must possess a safe driving record free from repeated convictions of major traffic law violations.

Qualified teachers who have passed Preliminary Certification in Traffic Safety Education are eligible to teach traffic safety education for a specific period of time until they are either given full certification on traffic safety education or dropped from the Preliminary Certification Program.

Instructors that are designated third party testing agents for the Department of Public Safety may administer the driver license test to their students.

### Driver and Traffic Safety Education Course Requirements

Driver and Traffic Safety Education for high school students is divided into two distinct phases. There should be an absolute minimum of thirty hours of instruction, including Boating Safety, in either the block or regular schedule classes and each student shall be required to successfully complete a performance-based evaluation of basic driving skills in a dual control vehicle. Optional phases of Driver Education are allowed and described in the following information.

### Legal Requirements for Driver Education

Driver Education is an elective course primarily for tenth-grade students. High School students in the public schools of Alabama shall receive one-half unit of credit upon the completion of an approved course in driver education. Students enrolled in the Driver and Traffic Safety Education course without a valid learner license should meet minimum health standards to operate a motor vehicle as outlined on the application for an Alabama driver license.

## **Optional Phases**

### *Simulation*

Simulation is designed to assist the student driver in acquiring the necessary procedural, perceptual, judgmental, and decision-making skills for safe driving. Simulation can enhance the skills taught in the classroom phase of Driver and Traffic Safety Education. All simulators used in these programs are subject to approval by the Administrator of Driver Education, State Department of Education.

### *Multi-Vehicle Driving Range*

The multi-vehicle driving range is an off-street area where several cars are used to provide driving experiences supervised by one or more instructors. Laboratory instruction and practice is thus provided. Notification of use of a multi-vehicle range should be made to the Administrator of Driver Education, at the Alabama State Department of Education.

## **Obtaining, Equipping, and Using Vehicles**

### *Obtaining Vehicles*

On the basis of reports to the Alabama State Department of Education (SDE), most schools are provided vehicles on a lease, rental, or loan basis from a local vehicle dealer. The SDE is currently providing financial grants to local education agencies (LEA) for the purchase of driver and traffic safety education vehicle(s) from the used state motor pool cars. Funds will be allocated on a matching basis, with the SDE supplying 80% from state funds and the LEA providing 20% from local funds. Contact the Administrator of Driver Education, at the Alabama State Department of Education for further information.

### *Use and Misuse of Instructional Vehicles*

The school system should have a written policy governing the circumstances, times, and persons concerned with the use of vehicles used in the driver education program, and should provide a means for assuring adherence to that policy. School authorities should exercise extreme care to prevent such vehicles from being used in unusual places, at unusual times and by unauthorized person. The safest plan is to confine the use of the vehicles to the driver education teacher. Any other use of these vehicles would be considered misuse.

## **Insurance on the Driver Education Vehicles**

Adequate vehicle insurance coverage should be provided for the protection of the school, the teacher, and the students who use the vehicle. If the vehicle is

borrowed or rented from a new or used vehicle dealer, coverage should be provided for the protection of that dealer. In most instances it is the obligation of the school to provide adequate insurance. If the school owns or uses more than one driver education vehicle, it is suggested that the school check the possibility of reduced rates through a LEA fleet policy.

Minimum coverage should include the following:

\$100,000.00 - \$300,000.00 public liability  
\$25,000.00 property damage  
\$100.00 deductible collision and complete comprehensive insurance (fire, theft, glass breaking, etc.)  
\$1000.00 medical

## **Driver Education Certificates For Students and Reduced Insurance Rates**

Most insurance companies that write vehicle insurance in Alabama recognize the fact that a student has successfully completed an approved Alabama State Department Driver and Traffic Safety Education course. Insurance companies recognize the importance of driver education and reward those students who complete the training with reduced insurance rates. Schools may wish to develop a certificate to issue to students who have met the requirements of their driver education program. Most major insurance companies will supply a form to be filled out by either the schools office or by the certified driver education teacher to aid in the process of receiving the driver education discount.

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## **Unit A**

# **Highway License Requirements**



# Highway License Requirements

## Concept 1-1 LEARNER LICENSE

### COS #1: Compare and contrast a learner license for a 15-year-old with a learner license for a 16-year-old.

#### Teacher Preparation

The teacher will read the Alabama Drivers' Manual for basic knowledge of state laws regarding learner license requirements for 15- and 16- year-olds. Teacher should secure a copy for each student. A current issue of Title 32: The Alabama Motor Vehicle Laws Annotated may be examined for a more detailed description of these laws.

#### Student Learning Activities

The student will study the Alabama Drivers' Manual and compare and contrast a learner license for a 15-year-old with a learner license for a 16-year-old, including the following:

- Period of issuance
- Proof of age
- Restriction regarding accompaniment of driver
- Requirements of issuance
- Current secondary school attendance (Alabama Act 93-368)

#### Explanation

**Period of issuance:** A learner's license, for both 15 and 16-year-olds, is valid for four years.

#### **Proof of age:**

##### 15-year-old applicants

- Social Security Card (or certified letter from SS Administration)
- Student Enrollment/Exclusion Form (DL 1-93). This form must be **completed and signed by authorized personnel** (i.e. Custodian of Records). Forms are available at secondary schools and driver license offices.
- State Certified Birth Certificate

##### 16-year-old, first time applicants

- Social Security Card (or certified letter from SS Administration)
- Student Enrollment/Exclusion form (DL 1-93). This form must be **completed and signed by authorized personnel** (i.e. Custodian of Records). Forms are available at secondary schools and driver license offices.
- And one of the following documents:

State Certified Birth Certificate, Passport, Military ID Card, State issued ID Card, School ID Card with photo.

If in possession of any Alabama Department of Public Safety document (ex. motorcycle license, vessel license, ID card) present only the Social Security Card and Form DL 1-93).

Restrictions regarding accompaniment of a driver:

**15-year-old** “Y” restriction indicates that the holder may operate a motor vehicle while accompanied by a parent or legal guardian who is duly licensed in this state or a licensed or certified driving instructor occupying the seat beside the operator.

**16-year-old** “Y” restriction indicates that the holder may only operate a motor vehicle with a licensed driver occupying the seat beside the driver.

Requirements for issuance:

Fifteen and 16-year-olds must successfully complete the required examination in order to obtain the learner license, which includes both a written test and vision screening. The fee for the written test is \$5 per test, which must be paid in cash. Tests for a Motor Driven Cycle License, Motorcycle License, or Boating License cost an additional \$5 per test, and again must be paid in cash. A license fee of \$23 is also required for the learner license.

Current secondary school attendance (Alabama Act 93-368)

As indicated under Proof of Age above, applicants age 15-19 are **required** to present Student Enrollment/Exclusion Form DL1/93, proof of high school graduation, or GED document, in order to take the learner’s examination.

**COS #2: Explain consequences of not having a learner license in possession when driving if questioned by a law enforcement officer.**

**Teacher Preparation**

Discuss with a local law enforcement officer the possible consequences of not having a learner license in one’s possession when driving.

**Student Learning Activities**

The student will identify the possible consequences of not having a learner license in one’s possession when driving if questioned by a law enforcement officer.

**Explanation**

Alabama law requires that the license must be carried on your person at all times while driving. Failure to have a learner license in one’s possession when driving could lead to a moving violation and the possibility of a fine if convicted.

**COS #3: Explain the difference between driving as a privilege versus driving as a right.**

**Teacher Preparation**

Teacher will explain the difference between driving as a privilege versus driving as a right.

**Student Learning Activities**

The student will demonstrate an understanding of the difference between driving as a privilege versus driving as a right.

## **Explanation**

Driving a motor vehicle is first and foremost a privilege, not a civil right. Not every one is allowed to have a license to drive. The failure to meet or maintain certain legal responsibilities can prevent a person from obtaining or keeping a valid driver license. Once a valid driver license is obtained a driver has the right to operate certain motor vehicles on the state's roadways as long as the laws for such operation are followed.

## **Concept 1-2 DRIVER LICENSE**

### **COS #4: Explain the requirements for obtaining an Alabama driver license.**

#### **Teacher Preparation**

Teacher will explain the requirements for obtaining an Alabama driver license.

#### **Student Learning Activities**

The student will demonstrate and understanding of the requirements for obtaining an Alabama driver license.

## **Explanation**

A person who is at least 16 years of age, possesses a valid learner's license and has developed the skills necessary to safely operate a motor vehicle may earn an operator's (driver) license through a road test. Upon successful completion of the road test, the applicant will surrender their learner's license and will be issued a new, regular license with the "Y" restriction removed for the remainder of the four-year period. This is at no cost to the applicant. The applicant must furnish a vehicle for the road test. The description of required equipment for the vehicle, and required maneuvers for the road test, are discussed in detail in the Alabama Drivers' Manual.

### **COS #5: Identify individuals who cannot be licensed.**

#### **Teacher Preparation**

Teacher will identify individuals who cannot be licensed.

#### **Student Learning Activities**

The student will list those individuals who cannot be licensed.

## **Explanation**

According to the Alabama Drivers' Manual an Alabama driver license shall not be issued to:

- Persons under 16 years of age. (See Alabama Drivers' Manual for exceptions.)
- Any person who's driving right or privilege is suspended or revoked in any state.
- Any person afflicted with or suffering from a physical or mental impairment which, in the opinion of the Director of Public Safety or examining officer, will prevent such person from exercising reasonable and ordinary control over a motor vehicle.
- Any person failing to pass the examination when required.
- Any person who is a habitual drunkard or addicted to the use of narcotic drugs.

- Any person who is under the age of 19, not in compliance with Alabama Act 93-368, which requires secondary school graduation or current attendance, with limited exclusions.

**COS #6: Explain the consequences of driving without possession of a driver license.**

**Teacher Preparation**

Teacher will explain the consequences of driving without possession of a driver license.

**Student Learning Activities**

The student will discuss the possible consequences of driving without possession of a driver license.

**Explanation**

Alabama law requires that the license must be carried on your person at all times while driving. Failure to have a driver license in one’s possession when driving could lead to a moving violation, and the possibility of a fine if convicted.

**Concept 1-3 APPLICABLE FEES**

**COS #7: Explain the costs of obtaining and reinstating driver licenses for motor vehicles, motorcycles and vessels.**

**Teacher Preparation**

Teacher will explain the costs of obtaining and reinstating driver licenses for motor vehicles, motorcycles, and vessels (boats, personal watercrafts).

**Student Learning Activities**

Explain the cost of obtaining and reinstating driver licenses for motor vehicles, motorcycles, and vessels (boats, personal watercrafts).

**Explanation**

The following are fees as determined by the Dept. of Public Safety:

- |  |   |
|--|---|
| ▪ Learner license fee*                   | \$5 for exam and \$23 for license   |
| ▪ Driver license                         | \$23 for license fee**  |
| ▪ Motor driven cycle license             | \$5 for exam and \$23 for license fee*  |
| ▪ Motorcycle license fee*                | \$5 for exam and \$23 for license   |
| ▪ Vessel license                         | \$5 for exam and \$15 for license   |
| ▪ Duplicate license                      | \$18 each issuance  |
| ▪ Identification Card                    | \$23  |
| ▪ Canceled, Suspended or Revoked License | Reinstatement fee of not less than \$100 in addition to meeting other requirements of the state law before relicensing. Failure to surrender a driver’s license as directed when canceled, revoked, or suspended, will result in an additional \$50 fee and drug related reinstatement could result in an additional \$275 fee. |

\*If obtaining more than one license or endorsement at the same time (such as driver license and motorcycle license), you pay the exam fee and only one \$23 license fee.

\*\*If applicant does not have a previous license

License fees are subject to change and may be slightly higher in counties where local legislation permits.

## **Concept 1-4 LICENSE RENEWAL**

### **COS # 8: Describe conditions under which retesting is required for renewal of a driver license.**

#### **Teacher Preparation**

Teacher will describe conditions under which retesting is required for renewal of a driver license.

#### **Student Learning Activities**

Student will identify conditions under which retesting is required for renewal of a driver license.

#### **Explanation**

The Alabama Drivers' Manual states the following about re-examination:

When it appears that the licensee has some physical or mental impairment, which might affect driving ability, they may be required to furnish a statement by a doctor showing medical history and present condition as it pertains to driving ability.

Under some circumstances, one may be required to appear before a driver license examiner at any time after issuance to prove ability to drive a motor vehicle. If one fails to report for such a driver test or fail to submit any required statements from the doctor, the driver license can be revoked.

## **Concept 1-5 SUSPENSION/REVOICATION/CANCELLATION**

### **COS # 9: Compare and contrast suspension, revocation, and cancellation of driver license.**

#### **Teacher Preparation**

Teacher will compare and contrast suspension, revocation, and cancellation of driver licenses, including the following:

- Point system
- Cost
- Duration

#### **Student Learning Activities**

Student will discuss the similarities and differences in the suspension, revocation, and cancellation of driver licenses.

#### **Explanation**

According to the Alabama Drivers' Manual:

**Suspension:** Driver license may be suspended if a driver is convicted of certain offenses or is judged incompetent to operate a motor vehicle. After the period of

suspension, the driver license will be reinstated unless it expired during the period of the suspension, or unless all the requirements of the suspension were not met.

Some examples of offenses that may cause loss of license upon conviction:

- Is a habitually reckless or negligent driver of a motor vehicle as established by a record of accidents or other evidence.
- Have permitted an unlawful or fraudulent use of your license.
- Are convicted of fleeing or attempting to elude a police officer.
- Are convicted of racing on the highways.
- Failure to answer a traffic court summons on time.
- Are ages 16 to 19, and withdraw from secondary school under certain conditions prior to graduation.

(A complete list may be found in the Alabama Drivers' Manual)

The length of suspension is determined by the Alabama Point System. For example, a minimum of 12 points in a two-year period will result in a 60-day suspension. A complete schedule of the Point System can be found in the Alabama Drivers' Manual.

For purpose of suspension, points count for two years, however the violation remains on the driver's record for a longer period of time.

**Revocation:** A driver license may be revoked if a driver is convicted of certain offenses. After the period of revocation has expired, the driver may apply for a new driver license and will be required to take and pass all examinations (vision, written and road).

**Some** examples that could lead to revocation upon conviction are:

- Manslaughter or homicide resulting from the operation of a motor vehicle.
- Driving or being in actual physical control of a motor vehicle while under the influence of intoxicating liquor.
- Using a motor vehicle in the commission of a felony.
- Failure to stop, render aid, or identify yourself in the event of a motor vehicle accident resulting in the death or personal injury of another.
- Three reckless driving convictions within 12 months.
- Unauthorized use of a motor vehicle belonging to another.

(A complete list may be found in the Alabama Drivers' Manual).

The period for license revocation varies, and is based on a person's specific conviction. In certain cases, a person may never have their licenses reinstated.

**Cancellation:** The Director of Public Safety is authorized to cancel any driver license upon determining that a person was not entitled to the license. Failing to give required or correct information on a driver license application or committing any fraud in making an application is also grounds for license cancellation.



**Unit B**  
**Traffic Law**

# Traffic Laws

## Concept 2-1 SPEED REGULATIONS

### COS #10: Define and explain terminology related to speed limits.

#### Teacher Preparation

The teacher will define and explain terminology related to speed limits

- Basic Speed Law
- Statutory (absolute/fixed) Speed Limits
- Advisory (flexible) Speed Limits

#### Student Learning Activities

The student will demonstrate an understanding through discussion and/or teaching, of the terminology related to speed regulations.

#### Explanation

Speed may not always, in itself, be the primary cause of traffic crashes, but it all too often is the factor that turns a minor mishap into a fatal accident. The greatest danger of excessive speed lies in the increased severity rather than the frequency of collisions. Speed limits are chosen carefully by traffic engineers who study road conditions and evaluate the road surface, the average amount of traffic, and hidden dangers. They look at how many accidents occurred in any particular area and if traffic congestion, during particular times, calls for reduced limits.

**Alabama's Basic Speed Law** provides that you must never drive a vehicle at a speed that is faster than is reasonable under existing conditions. One must consider road, weather, light, and your vehicle condition, as well as your own physical condition. What might be a reasonable speed at one time may not be reasonable at another time due to the conditions. As an example, you would not drive at the maximum allowable speed in the middle of a snowstorm, but you might do so on a clear day. Posted speed limits do not tell you at what speed to drive, they only say you cannot go faster or, in special cases, slower than the speed limit shown.

In addition to the basic speed law, the traffic laws set up **Statutory Speed Limits** for normal driving conditions. These speed limit signs reflect the **maximum** speed at which you may be arrested and/or ticketed.

According to the Alabama Drivers' Manual, the statutory speed limits are:

- |          |                                     |
|----------|-------------------------------------|
| ▪ 30 mph | in urban district                   |
| ▪ 35 mph | on unpaved road                     |
| ▪ 45 mph | on paved county road                |
| ▪ 55 mph | in other locations (state highways) |
| ▪ 65 mph | where posted (state highways)       |
| ▪ 70 mph | where posted on interstate highways |

Statutory speed limits apply unless there have been other speed zones established and the limits are posted on official regulatory signs.

Minimum speed limits may also be set on some roadways. Where they are posted, any speed below the minimum is considered to be unlawful under normal weather, road, and traffic conditions. You must never drive so slowly that you will



interfere with other cars or vehicles moving at normal safe speeds. Slow drivers can also make other drivers nervous or angry and cause additional problems. Many accidents are caused by drivers who block or hinder other traffic by driving at speeds that are too slow.

## Concept 2-2      **STOPPING**

### **COS #11: Discuss situations that require drivers to bring their vehicles to a complete stop.**

#### **Teacher Preparation**

Discuss situations that require drivers to bring the vehicle to a complete stop.  
Ex. Approaching a school bus displaying flashing lights and a stop bar, exiting private property or parking lots, approaching unmarked railroad grade crossings.

#### **Student Learning Activities**

The student will understand when and where it is necessary to bring the vehicle to a complete stop.

#### **Explanation**

According to the Alabama Drivers' Manual, a complete stop is required for the following:

- At a STOP sign. When a stop sign is placed at the entrance to any street or highway, you must bring your vehicle to a complete stop. A vehicle approaching a STOP sign must stop at the marked stop line. If no stop line is marked, the vehicle must stop before entering the crosswalk on the near side of the intersection. If there is no crosswalk, the vehicle must stop before entering the crossing street at the point nearest the intersection where the driver has a clear view of approaching traffic. A good rule of thumb would be to stop with the front part of the car even with the stop sign. Then proceed cautiously. You may have to stop a second time if your view was blocked at the first stop and there is conflicting traffic.
- When coming from an alley, private driveway, or building within a business or residence district. Always stop before crossing the sidewalk or crosswalk area.
- When a school patrol member is displaying an official flag in a STOP position.
- At an intersection or cross walk when a traffic signal shows a red light or stop signal. Wait until the signal changes to green and the way is clear before proceeding. You may make a right turn after stopping for a red light if you are in the proper lane for such a turn; and you may also make a left turn after stopping if you are driving on a one-way street and the street you turn left onto also is a one-way street with traffic moving right to left. In the case of both right and left turns after stopping for a red traffic signal, you must yield to other traffic **lawfully** proceeding through the intersection and to pedestrians. Such turns cannot be made against a red light if there is a sign **prohibiting** such a turn.
- At railroad crossings where a STOP sign is erected.
- At a flashing red signal. This means the same as a STOP sign.

- When directed to do so by a flagman, or any traffic control device, at railroad crossings.
- At bridges opening for water navigation.
- When ordered to stop by a flagman at a construction site, or at any time when directed by a police officer.
- After being involved in an accident. Proceed only after complying with procedures defined by law.
- When an **emergency vehicle** is coming toward you or approaches from behind and is displaying flashing red or blue lights and sounding a siren. You must pull over to the right side of the curb or road and come to a complete stop.
- At a yield sign if there are **pedestrians** or vehicles crossing the intersecting street or highway.
- When you meet or are following a school bus or church bus stopped on the road while the stop signal arm is extended and displaying flashing red lights. Remain stopped until the stop signal is **retracted** and red lights are turned off. You should also stop when meeting or following a school or church bus that is stopped on a four-to-six lane highway even if the opposing traffic lanes are separated by a median or safety zone. (Many school buses will **activate** amber lights well in advance of the stop in order to warn other drivers)

After a complete stop, unless noted otherwise, and there is no traffic from the right or left you may proceed. When there is other traffic on the roadway, you must decide what to do. If there are stop signs for cross traffic and another car has reached its stop sign before you reach yours, you must let it go first. If you and the other car arrive at the same time, the car on the right must be given the right of way. If the other car is on your left, make sure it is going to wait, then proceed cautiously.

When stopping always check the mirrors and, if time permits, tap your brake lights to warn others that you are stopping. Apply smooth, steady, firm pressure to the brake pedal, easing up slightly as you come to a halt.

When stopping behind other vehicles, stop far enough behind the vehicle to see the back tires touching the roadway. This allows for vehicles that may roll back when starting or prevent your car from being pushed into the vehicle in front if your vehicle is hit from the rear.

Remember to allow extra time and space when stopping under adverse conditions, driving with a heavy load, or towing a trailer.

## **Concept 2-3      RIGHT OF WAY**

### **COS # 12: Describe situations where stopping or yielding is required as a result of right-of-way laws.**

#### **Teacher Preparation**

The teacher will describe situations where yielding is required as a result of right of way laws.

#### **Student Learning Activities**

The student will demonstrate an understanding of the basic right of way rules.

## Explanation

When you drive, sometimes one or more drivers or pedestrians will want to use the same roadway space at the same time that you do. As a good driver, you will sometimes have to yield the right of way, i.e. let others go first based on a set of rules. One should never assume they have the right of way; you do not have it until the other driver gives it to you.

Right of way is always given by someone, right of way laws are very clear in identifying who shall yield to whom in almost every situation. Remember that drivers are human and humans make mistakes so the rule that you must yield the right of way to avoid a collision overrides all other rules. The right of way rules are based on the **Uniform Vehicle Code**, and are, basically the same from state to state.

Right of way rules are an aid to safe and smooth traffic flow. They emphasize courtesy and common sense. But the violation of these rules is one of the main causes of traffic crashes. It is smart to obey right of way rules.

### The right of way rules include:

- If two vehicles enter an intersection not controlled by signs or signals, and from different roadways at about the same time, the driver of the vehicle on the left side shall yield to the vehicle on the right. If you enter an uncontrolled intersection at an unlawful speed, you lose any right of way, which you might have otherwise.
- Yield to emergency vehicles (such as ambulances, fire fighting apparatus, and police vehicles) when they are displaying a flashing red or blue light and sounding a siren or bell. Whether the emergency vehicle is overtaking or meeting you, pull to the right side of the roadway and stop. If in an intersection, clear it before stopping. Don't proceed until the emergency vehicle is passed.
- The law requires you to stop and give the right of way at any intersection to a blind person carrying a white cane and holding the cane with the arm extended, or using a guide dog.
- Cars entering from a private road or driveway must stop and yield to cars on the public street or highway.
- When entering an intersection where there is a *Yield* sign facing you, slow down and, if necessary, stop to yield the right of way to vehicles and pedestrians legally crossing the roadway on which you are driving.
- When making a left turn within an intersection or into an alley, driveway, or private road, you must yield the right of way to any vehicle approaching from the opposite direction when it is within the intersection or so close as to constitute an immediate hazard.
- Vehicles entering an intersection on "green arrows" must yield to other traffic lawfully using the intersection.
- 

One of the most common violations in fatal collisions involving more than one car is a driver's failure to yield right of way. Remember, just because you are on a major street or are on the right of a four-way stop; don't assume that others will yield to you. Be alert to the mistakes and lack of knowledge of others. Again, you do not have the right of way until the other driver gives it to you.

## **Concept 2-4      PASSING**

### **COS #13: Explain how traffic signs and pavement markings regulate the passing maneuver.**

#### **Teacher Preparation**

The teacher will explain how traffic signs and pavement markings regulate the passing maneuver.

#### **Student Learning Activities**

The student will demonstrate an understanding of the traffic signs and pavement markings that regulate the passing maneuver.

#### **Explanation**

Many highway deaths and serious injuries occur on two-lane highways when vehicles collide head-on or sideswipe each other. Improper or careless passing causes most of these—almost always in violation of state law.

Most two-lane highways in the state are adequately marked with solid yellow center stripes and prohibiting signs in areas where passing would be hazardous. If the solid line of the combination solid-broken yellow lines is the first one to your left, you may not cross it to pass another vehicle. If the broken yellow line is the first one to your left, you may cross it (and the solid yellow line) to pass a vehicle when it is safe to do so. When two solid yellow lines divide a road, you cannot cross them to pass another vehicle. (You can turn across them to turn into a driveway).

Roadways may also be marked with a *No Passing Zone* sign placed on the left side of a two-way roadway. This sign is to warn drivers at the beginning of a No Passing Zone. In addition to those areas so marked, drivers must exercise extreme caution in all areas during the hours of darkness and at other times of poor visibility, and when road surfaces are slippery from rain, snow, or ice. If the road conditions are poor, avoid passing even if the law allows passing.

### **COS #14: List situations in which passing would be illegal or irresponsible.**

#### **Teacher Preparation**

The teacher shall explain situations in which passing would be illegal or irresponsible.

#### **Student Learning Activities**

The student will be able to list all situations where passing is illegal and/or irresponsible.

#### **Explanation**

On two-lane roads with traffic moving in both directions, you may pass traffic on the left if the pass can be completed safely—without exceeding the speed limit.

Passing on the right is permissible on one-way roadways and streets and highways marked for two or more lanes of traffic moving in the same direction. It is unlawful to drive on the shoulder to pass except during an emergency or when so directed by traffic authorities. When passing on the right, be sure to check

traffic ahead and behind and use signals to show your intention. Use of the signal alone does not give you the right to pass. Be extremely cautious in passing on the right and watch the car you are passing carefully. In some states, this is a **forbidden maneuver** and out-of-state drivers may not expect it.

*You may not cross the centerlines to pass:*

- On a curve or hill where you cannot see a clear passing distance of at least 500 feet.
- At highway intersection
- When meeting an oncoming vehicle
- Where signs prohibit passing, or where there is a solid yellow line on your side of the centerline. Double solid yellow prohibits traffic from both directions from crossing the centerline to pass.

*General rules concerning passing:*

- Check the road ahead, signal, check mirrors and blind spot.
- Return when you can see both headlights of the car being passed in your rearview mirror—don't cut in too soon.
- Don't speed up when being passed.
- It is illegal to pass on the shoulder of the road
- You will need to accelerate at least 10 mph faster than the car being passed.
- It takes approximately 16 seconds to pass another car when driving at a speed of 50 mph when the car being passed is going 40 mph.
- Use a very slight controlled movement of the steering wheel when moving to pass or change lanes—usually not more than one-eighth of a turn.
- Be alert for places where highways may narrow and don't pass there.
- Hold the steering wheel firmly when being passed by large trucks to adjust for possible wind gusts.
- Move out of a driver's blind spot as quickly as possible when passing.
- Before risking a pass, consider the driver's likely actions—will they soon pull over or turn, will he need to swerve to miss a pedestrian, cyclist, animal, etc?
- When in doubt as to the safety of a passing maneuver don't pass.
- If the vehicle being passed demonstrates erratic behavior, drop back and re-evaluate the situation.
- If, when passing, one misjudges the speed and distance of an oncoming car, try to brake and fall back behind the vehicle being passed, if this is impossible then speed up quickly to complete the pass.

## **Concept 2-5      TRAFFIC CONTROLS**

### **COS #15: Identify basic types of traffic controls**

#### **Teacher Preparation**

The teacher will identify basic types of traffic controls including:

- Signs
- Signals
- Pavement markings

## Student Learning Activities

The student will identify basic types of traffic control signals.

### Explanation

The red, yellow, and green lights that most people call “traffic lights” are known to traffic engineers as traffic control signals. Traffic control signals keep traffic moving in an orderly manner and to indicate right of way. Most signals operate automatically using a timer system to change the lights through their sequence.

The standard light colors and their meanings are:

- Red Stop when signal is steady circular red. Remain stopped until signal turns to green. Right turns and, in certain circumstances, left turn movements after stopping are permitted unless a sign is posted prohibiting the turn (NO TURN ON RED)
- Yellow A circular steady yellow means clear the intersection. It follows a green signal. You must not enter the intersection when the red signal comes up.
- Green Go when signal is steady circular green. You may go straight or turn right or left, yielding to other vehicles and pedestrians lawfully within the intersection. A sign may prohibit a turn or turns.
- Flashing Red This means the same as a stop sign. You must come to complete stop before entering the intersection and yield to traffic close enough to be an immediate hazard.
- Flashing Yellow A flashing yellow light means slow down and use extra caution.
- Green Arrow A steady green arrow shown alone or with any other indication means you may enter the intersection to make the movement indicated by the arrow or any other movement permitted by the other indications, yielding to pedestrians and vehicles lawfully using the intersection. This arrow permits you to proceed in the direction of the arrow while opposing traffic must stop.
- Yellow Arrow A steady yellow arrow comes after a green arrow to indicate that the protected movement indicated by the green arrow is being terminated.

The standard order of the traffic control signal is green-yellow-red. For colorblind drivers, distinction may be made according to position. Vertically, the red light should always be on top, yellow in the center, and green on the bottom. When

placed horizontally, red should be on the left, yellow in the center, and green on the right.

Special-use signals may operate at certain times or on demand at school zones, fire stations, or factories.

In the urban areas, you'll find pedestrian signals to control movement of pedestrians at busy intersections. Pedestrian signals can serve as an aid to drivers in predicting the changing of a traffic control signal.

The pedestrian signals and their meaning are:

- Walk Pedestrians may start to cross when the Walk is on. Once you start, continue to the nearest curb.
- Flashing Don't Walk When the flashing Don't Walk comes on, do not start to cross. If you have started to cross on Walk and the flashing Don't Walk comes on, complete your crossing to the nearest curb at your normal pace.
- Steady Don't Walk Do not start to cross when the steady Don't Walk signal is on.

In the absence of Walk or Don't Walk signals, traffic control signals regulate the movement of pedestrians as well as vehicles. For example, if the steady red light is on you may cross in front of that traffic, in the marked crosswalk. If the traffic has a steady green light, do not cross. If the steady yellow light comes on, and you had started to cross, continue on, if not, do not start to cross.

On heavily traveled multiple-lane roadways, you may see lane-use lights mounted above the roadway. It is important for you to know what to do in response to these signals, because they are used when lane traffic is reversed during rush hours. Lane-use lights indicate which lane you can use at any given time. Pavement markings (to be discussed later in this section) will accompany the lane-use lights.

The lane-use control signals are:

- Steady Red X A driver facing this indication shall not drive in the lane over which the signal is located, and this indication shall modify accordingly all other traffic controls present. The driver shall obey all other traffic controls and follow normal safe driving practices. This may also be indicated by a steady red light.
- Steady Green Light A driver facing this indication is permitted to drive in the lane over which the arrow signal is located. The driver shall obey all other traffic controls and follow normal safe driving practices. This may also be indicated by a steady green light.

- Steady Yellow Arrow (X) A driver facing this indication should safely vacate this lane—because a red X will soon control it.
- Flashing Yellow Arrow (X) A driver facing this indication should use this lane, with caution, for shared left-turn movements only.

One should keep in mind that a police officer could take the place of and overrule traffic control signals. So, if an officer is present, you should follow the officer's signals even if they go against those of the automatic traffic signal or stop light.

Lines, lettering, and symbols on the pavement are used to give important information, directions, and warnings about highway travel to drivers and pedestrians. It is vital to understand the meaning of these markings in order to control and to reduce risk.

Generally, there are four types of pavement markings:

- Centerline Striping
- Edge Striping
- Crosswalk
- Pavement Messages

The centerline is the painted stripe in the center of the road that separates traffic moving in opposite directions. Yellow and white roadway lines provide directions or warnings for drivers. Yellow lines divide traffic traveling in opposite directions and are on all two-lane highways. White lines parallel to the roadway separate same-direction traffic into lanes and are on multi-lane highways and one-way streets. Broken lines are used in areas where there are no restrictions on passing when safe to do so. In those areas where passing is not allowed, a solid yellow line is painted alongside the broken line. If the solid yellow line is on your side of the centerline, you may not pass.

If passing is not allowed for traffic in both directions, the broken line will be replaced with two solid yellow lines. When a roadway consists of two or more traffic lanes for vehicles moving in one direction, broken white lines divide the lanes. These broken lines may be crossed when passing.

In many areas, the right and/or left edges of the highway are marked with a *solid white line*. This line indicates the outside edge of the traffic lane, and may be crossed only by traffic moving to or from the shoulder. Occasionally yellow lines are used for left edge lines on divided roadways where traffic cannot pull entirely off the roadway, for marking obstructions, and islands, which must be passed on the right. A normal solid white line is used to delineate the edge of a travel lane where travel in the same direction is permitted on both sides of the line but crossing requires unusual care.

*A double solid white line* is used to delineate a travel lane where travel in the same direction is permitted on both sides of the line, but crossing the double lines is prohibited.

*White solid lines* are used to denote pedestrian crosswalks at intersections and, in some situations, between intersections. A driver must stop at all crosswalks that are occupied by pedestrians if there are no controlling signals.



In some areas, pavement messages are used to warn of conditions ahead, such as SCHOOL ZONE, RR CROSSING, etc. Such messages are lettered on the road surface in white paint.

Other roadway markings may include lines, arrows, symbols, and lettering. White arrows on the roadway direct a driver into lanes from which you can drive straight ahead or turn right or left. On some three-lane roadways, the center lane is marked by parallel solid and broken yellow lines with white arrows that point alternately left and right. These lanes are shared left-turn lanes. Vehicles moving in either direction can use these lanes to make left turns into another road or entrance. Drivers who want to make left turns onto the roadway can also move into the shared left turn lane and wait for a gap in traffic.

Some intersections are marked with a broad white line called a stop line. This line is prior to the cross walk and is the lane that drivers should stop behind at a stop sign or traffic signal.

**Reversible lane markings** are double dashed yellow lines to identify lanes that at different times of the day may be used by traffic moving in opposite directions.

**High Occupancy Vehicle Lanes** are marked by a white diamond and are used by vehicles carrying 3 or more occupants. The purpose is to encourage carpooling to reduce the number of vehicles on the highways.

Parking spaces are outlined by solid white stripes. A **wheelchair symbol** and blue lines mark disabled or handicapped parking areas. These spaces cannot be used without proper documentation. Curbs painted yellow mark illegal parking areas.

## **COS # 16: Describe ways of recognizing traffic signs.**

### **Teacher Preparation**

The teacher will describe how to recognize traffic signs according to:

- Shape
- Color
- Symbol or legend

### **Student Learning Activities**

The student will be able to recognize traffic signs according to their shape, color and symbol.

### **Explanation**

It is important to know, recognize, and obey traffic signs immediately. Road signs have taken on a new look with greater use of symbols and pictures. These have the advantage of quicker recognition at higher speeds and at greater distances. It is important for the driver to recognize the shapes and colors of signs, because they give information on the meaning of the sign. There are three types of road signs classified according to their function. These are discussed fully in COS #17.

## **COS #17: Discuss different types of traffic signs and their meanings**

### **Teacher Preparation**

The teacher will discuss different types of traffic signs and their meanings, for example:

- Regulatory
- Warning
- Informational or Guide

### **Student Learning Activities**

The student will demonstrate an understanding of traffic signs and meanings.

### **Explanation**

The three main types of traffic signs are:

- Regulatory
- Warning
- Information and guide

Regulatory signs regulate or control the movement of traffic. These signs tell the drivers what they must do and what they must not do when driving. Regulatory signs are red, white, black, green on white or white on black, and must be obeyed. Failure to obey regulatory signs can lead to ticketing. Most regulatory signs have a vertical, rectangular, shape. A red circle with a red slash on any of these signs means NO. You can easily recognize signs by their shape and color.

Regulatory signs give commands or set limits. Some examples of regulatory signs are:

- STOP
- YIELD
- SPEED LIMIT
- ONE WAY
- DO NOT ENTER
- WRONG WAY
- NO PARKING
- NO RIGHT TURN

Warning signs are black and yellow, except for those used in construction areas that are orange and black. These signs are used to warn drivers of hazardous conditions ahead requiring you to drive with extra caution.

Warning signs are usually diamond shaped, but there are some exceptions. When you see a warning sign, increase your level of alertness to changes in the roadway, in traffic, or in environmental conditions.

Some examples of warning signs are:

- SHARP TURN TO THE RIGHT
- THERS IS A BUMP IN THE ROADWAY AHEAD
- RAILROAD CROSSING (circle)
- NUMBER OF HIGHWAY LANES AHEAD CHANGES
- NO PASSING ZONE (pennant)
- MERGING TRAFFIC

Guide or Informational signs inform and direct motorists, and are green and white for motorist directions, blue and white for services, and brown and white for points of public recreational or cultural interest.

Some examples of guide or informational signs are:

- ROUTE MARKER
- DESTINATIONS
- ROADSIDE SERVICE
- NATIONAL PARKS

Mile markers or mileposts are another type of informational or guide signs. These signs are used to assist drivers in pinpointing locations and to provide a means of identifying the location of emergency incidents, and to aid in highway maintenance and service. Zero mileage begins at the South and West state lines or at junctions where routes begin.

International signs are those that you can understand without knowing another language. Their color, shape, symbols, and numbers convey the meaning.

Some examples of international signs are:

- FALLING ROCKS
- FIRST AID STATION
- GAS STATION

Interstate Highway Signs are red, white, and blue shield shaped signs. If the number on a one or two digit interstate sign is odd, it means that the road travels east and west. An even-numbered one or two digit sign means the road travels north and south. The numbers on interstate signs go from 5 to 95. The lower the even number, the farther south and west you are. The greater the odd number, the farther east and north you are. If the interstate sign has three digits on it, it is either a spur or a bypass. If the first number is odd, the highway is a spur meaning it branches off the interstate and goes into a city. If the first number is even, it is a bypass, which means it goes around a downtown area and comes back into the interstate.

The interstate system was designed and started during the Eisenhower administration based on the highway system in Germany. One of the requirements was to have 2 miles of straight, flat highway for every 100 miles of interstate. This was to be used as air strips in the event of a national disaster. The first interstate highway began in St. Louis, Missouri.

## **Concept 2-6      OCCUPANT RESTRAINT SYSTEM**

### **COS #18: Explain regulations regarding the use of occupant restraints.**

#### **Teacher preparation**

The teacher will explain regulations regarding the use of occupant restraints in relation to:

- Alabama Child Restraint Law
- Alabama Safety Belt Law

## Student Learning Activities

The student will understand state laws in regard to the use of occupant restraints.

### Explanation

According to the Alabama Drivers' Manual, the "Alabama Child Restraint Law" requires that children under six occupy a federally approved child restraint system when riding in motor vehicles excluding trucks or buses (having tonnage rating of one ton or more) registered in Alabama and operated on Alabama roadways. Four and five-year olds may use standard safety belts, if fitted properly, instead of child safety seats. This is a primary law with a fine when not obeyed.

The "Alabama Safety Belt Use Act of 1991" (amended in 1999) requires that all front occupants to use safety belts when riding in passenger cars (motor vehicles designed for carrying 10 or fewer passengers) manufactured in 1965 or later. This is a primary law (due to the amendment in 1999) and is subject to a fine.

Of all safety equipment installed in a vehicle, the safety belt has the greatest potential for saving lives and at the least cost.

The lap belt should be drawn snugly across the hipbones. Never across the abdomen or soft part of the stomach. The shoulder belt should have just enough slack to let the driver reach the important controls.

Generally, the shoulder belt is correctly adjusted if there is just enough room for a fist between the chest and belt. It is all right to wear the seat belt alone, but **NEVER** wear just the shoulder belt. It could cause injury in a crash.

Injuries commonly occur from the "second collision", when people hit the dashboard, the windshield, or the pavement. Safety belts prevent this.

One out of three driver fatalities would never happen if all drivers wore their safety belts.

Over half of the traffic deaths and injuries happen within 25 miles of home at speeds under 40 mph. One should wear their safety belt every time they get behind the wheel.



**Unit C**  
**Responsible**  
**Ownership**

# Responsible Ownership

## Concept 3-1 VEHICLE REGISTRATION

### COS # 19: Explain Alabama's motor vehicle registration law

#### Teacher Preparation

The teacher will explain the Alabama Motor Vehicle Registration Law.

#### Student Learning Activities

The student will understand correct procedures to follow in regards to the registering of their motor vehicles.

#### Explanation

As of January 1, 1998, you must keep your tag when you sell, trade, or transfer ownership of your vehicle. This applies to all vehicle tags except the Vintage Vehicle tag; it remains with the vehicle. Act 96-746 will protect the sellers of used vehicles from false charges against them when the new owner intentionally delays changing the registration of the vehicle.

If an individual purchases or acquires a vehicle having a current and valid tag, the new owner is required to remove the tag and return it to the issuing official of his residing county. If the new owner were a corporation or other business entity, the tag would be returned to the issuing official of the county where the vehicle is used or operated. If the tag has expired, the new owner is not required to turn in the license plate to the issuing official.

*There are two exceptions to the tag-follows-owner law in which certain distinctive tags or the standard license plate will remain with the vehicle:*

- One is related to the transfer of ownership from a parent to a child of a vehicle displaying Helping Schools, Collegiate, Environmental, or Personalized tag.
- The second involves the transfer of ownership to a surviving spouse of a vehicle displaying any category of distinctive tag or a standard license plate. Note, however, that if the vehicle bears a distinctive license plate or a registration fee-exempt license plate for which the current owner would not qualify, the tag must be turned in to the licensing official within 30 days of the date in which the spouse obtains ownership. The current owner must then apply for registration of the vehicle and obtain a new tag.

In situations where the owner acquires a vehicle requiring a higher license plate classification than his previously owned vehicle (e.g. passenger car to motor home) the owner must:

- Request a transfer of his/her valid Alabama license plate to his/her newly acquired vehicle.
- Turn in his/her license plate to the issuing official.
- Pay the prorated difference in the registration fees between his/her previously owned vehicle and his/her newly acquired vehicle.

The new, higher license plate classification will then be issued to the owner.

Failure to remove the tag from the previous vehicle will require the purchase of a new tag at a rate of \$25.25 per tag.

Owners of new vehicles have 10 calendar days to purchase a tag or pay a \$10.00 penalty. Purchasers of used vehicles also have 10 calendar days to transfer the tag or pay a \$10.00 penalty.

When purchasing or transferring a tag you must bring a title application, Bill of Sale, and all other documents you have in regard to the vehicle (i.e. tag number, decal number, month and year of expiration).

It is the owner's responsibility to keep the tag from your previous vehicle to place on the one you have acquired, however, do not put the tag on the new vehicle before transfer is complete in the Revenue Office.

Tags are renewed on a yearly basis depending on the first letter of your last name.

Act 96-746 requires that self-propelled motor vehicle owners retain a copy of their current year registration receipt in their vehicles beginning with the 1998 registration year, and upon request, drivers must present the vehicle's registration receipt to law enforcement officers for inspection. Prior to receiving their new registration receipts, new vehicle owners will be required to retain one of the following for presentation to law enforcement:

- A legible copy of the legal Bill of Sale; or
- A copy of the application for certificate of title; or
- A valid Alabama temporary registration receipt.

Failure to produce proof of registration documents may result in individuals found guilty of Class C misdemeanor and a fine of not less than \$50.00.

This proof of ownership requirement applies to all vehicles (including leased vehicles) except trailers.

## **Concept 3-2      INSURANCE**

### **COS #20: Identify the various types of insurance available to the consumer.**

#### **Teacher Preparation**

The teacher will identify the various types of insurance available to the consumer.

#### **Student Learning Activities**

The student will be able to identify available types of insurance

#### **Explanation**

Many different kinds of insurance are available to the consumer and it is important to understand these and choose what is best for your needs. The different types of coverage available are:

- Liability – this coverage is proof that you will be financially responsible if you cause damage to property of or injure other people. There are two types of liability insurance:
- Bodily Injury Liability, which pays claims against the owner if someone is killed or injured and the owner is at fault. It also covers legal fees, court costs, and lost wages. Bodily injury liability has two limits – one for each person and a limit for each accident.
- Property Damage Liability, which pays for claims against the owner if property is damaged and the owner is at fault. The property can be

another car, a telephone pole, a tree, a fire hydrant, etc. This type of insurance is sold in blocks of thousands, as is bodily injury liability.

Liability insurance is the most important protection a driver can have, but it only covers you for the limits you have purchased. If a court determines that you have caused more damage than your insurance will pay, you are held personally liable for the costs.

- Uninsured Motorists – this coverage pays damages for you and your passengers bodily injuries caused by a collision with a motor vehicle driven by a legally liable but uninsured or unknown driver. This will pay for hospital and doctor bills, legal fees, court costs and loss of wages. This does not usually cover property damage.
- Collision – this coverage pays for damage to your vehicle even if you are to blame or involved with an uninsured motorist. This will also cover repairs if your car is damaged in a parking lot or in a parking space on the street. It is important to have this coverage if you have a new or expensive vehicle and can be dropped after 7-10 years of ownership. This coverage comes with a deductible policy. This means that the owner will pay a fixed amount, such as the first \$50.00, \$100.00, \$250.00, etc. worth of damages before the policy starts paying. The greater fixed amount, or deductible, the less the insurance costs. Lending institutions may set a maximum amount for the deductible until the vehicle is paid off. This coverage usually requires the motorist to carry comprehensive coverage.
- Comprehensive – this coverage pays if your vehicle is damaged by something other than a collision, such as theft, fire, explosion, natural disasters (flood, wind, earthquake), falling objects or vandalism. This is also important to have if your car is new or expensive. Some policies allow for a per diem for a replacement vehicle.
- Medical Payments – this will pay for the medical and/or funeral cost for you and your passengers if injured/killed in any collision. This coverage does not require a legal process to determine fault, it will pay immediate medical costs. This could also pay a fixed amount if you or a member of your family is injured or killed while riding with someone else or is struck as a pedestrian or bike rider or while riding on a bus or in a taxi. The policy limits determine the amount to be paid.

### **COS #21: Discuss the variables involved in purchasing automobile insurance.**

#### **Teacher Preparation**

The teacher will discuss the variables involved automobile insurance

#### **Student Learning Activities**

The student will understand the variables involved in automobile insurance.

#### **Explanation**

In Alabama, when you register your vehicle (buy license plates) you must show proof of liability insurance. If your vehicle is financed through a lending institution



you must also have full coverage insurance. The purpose of these requirements is to insure that motorists are financially responsible for damages they may incur or the replacement of a vehicle. It is important to understand your needs when deciding which type of coverage you need, other than liability.

You purchase vehicle insurance by paying a premium, or a set amount of money, to an insurance company. These premium payments are usually paid every six months (some companies allow monthly payments). Insurance companies rely on statistics in determining their premiums.

The statistics indicate the likelihood that people of a certain age, gender, or marital status will be involved in a crash. The statistics also indicate the likelihood of certain types of vehicles being involved in a crash.

The factors that are used to determine premium rates are:

- Your age – drivers under the age of 25 years pay the highest premiums. The older you get the lower your rates become.
- Your driving record – traffic violations, convictions, collisions, and insurance claims can increase your premium costs. Some companies offer discounts to those who drive a specified number of years without an insurance claim or traffic ticket.
- Mileage per year – the farther you drive, the more your vehicle insurance will cost.
- If you drive to work – car-pooling reduces the cost of insurance.
- Where you live – if you live in a city, your insurance costs will be greater than those of a person who lives in the country, due to the difference in traffic patterns.
- Your gender – women pay lower insurance rates than men. Statistics show that men drive more often, take longer trips, and are involved in more collisions.
- Your marital status – young married men pay less than men of the same age who are single. Statistics have shown that young married men are involved in fewer collisions than young single men.
- The value of your vehicle – the more expensive the vehicle, the greater the cost of insurance.
- The type of vehicle – a sports car or sport utility vehicle costs more to insure than a larger sedan. A four-cylinder or engine with manual transmission make for lower rates.

Many insurance companies offer discounts to students who have completed a driver education program and to students whose grade average is B or higher. Companies may also offer discounts to drivers whose vehicles have safety features, such as air bags and anti-lock brakes. Discounts may be given as well to drivers who garage their vehicle. Cars with anti-theft devices also can reduce rates.

## **COS #22: Discuss the importance of periodically evaluating individual insurance coverage**

### **Teacher Preparation**

The teacher will discuss the importance of periodically evaluating individual insurance coverage.

## Student Learning Activities

The student will know the importance of evaluating insurance coverage throughout their lifetime.

### Explanation

As your family makeup changes it is important to make sure that your insurance coverage is adequate. Also, as the economy changes, the cost of replacing a vehicle rises, and the costs of medical care increases, make sure that your coverage limits are raised to meet these demands.

## Concept 3-3 FUEL ECONOMY

### Cos #23: Explain energy-efficient driving practices.

#### Teacher preparation

The teacher will explain energy-efficient driving practice.

## Student Learning Activities

The student will understand the most fuel-efficient driving habits.

### Explanation

#### Energy-efficient driving practice

According to the Department of Energy, there are more than 100 million registered automobiles in the United States. Altogether, these vehicles consume more than 70 trillion gallons of gasoline each year.

The most important element in determining the fuel economy of a particular car is the driving technique of the individual behind the wheel. The Federal Energy Administration states that a careful driver should be able to get at least 30% better mileage than an average driver and 50% better mileage than a poor one. Therefore, the importance of individual gasoline savings cannot be overemphasized.

#### The following are tips for energy-efficient driving:

- Smooth acceleration – acceleration should be applied at a slow, even pressure and be maintained until a desired speed is reached. Reckless acceleration will increase fuel consumption.
- Consistent speed – constant readjustment of the acceleration pedal can cause an unnecessary waste of fuel. A driver should attempt to drive consistent with the existing traffic environment. Avoid unnecessary lane changes and drive within the posted speed limits.
- Smooth braking – a driver should anticipate traffic situations that will require braking. A deceleration period before braking would conserve fuel. Tailgating is a poor-driving practice because it necessitates frequent braking.
- Prolong idling – prolong idling reduces fuel efficiency. In most cases it would be more efficient to restart an engine than to have prolonged idling.
- Plan your route in advance – use the SIPDE process to help you judge when to reduce speed or increase following distance and

thereby avoid unnecessary stops. Each time you stop and then accelerate again, you burn extra fuel. Save fuel by letting up on the accelerator well in advance of a red light, stop sign, or yield sign.

**COS #24: Analyze the best possible routes to conserve fuel consumption when traveling.**

**Teacher Preparation**

The teacher will analyze the best possible routes to conserve fuel consumption when traveling.

**Student Learning Activities**

The student will plan a route using the most economical route in regards to fuel consumption.

**Explanation**

When planning a trip utilize maps and atlases that can give you a clear view of the highways available. Try the INTERNET to help plan for a door-to-door route analysis. INTERNET sites such as map quest, trip planner, travelocity, city trek, etc. can give you a street by street route, as well as, number of miles and travel time. When planning a trip on your own, with the use of map and an atlas, the scenic route available may be more enjoyable but a limited access highway tends to be much safer and more energy efficient. You will have less stops, starts, curves, and hills and you will be able to maintain a steady speed for longer periods of time.

**COS #25: Calculate the fuel consumption to determine miles per gallon of a vehicle.**

**Teacher Preparation**

The teacher will explain how to calculate fuel consumption to determine miles per gallon of a vehicle.

**Student Learning Activity**

The student will be able to calculate miles per gallon for a vehicle.

**Explanation**

When determining the miles per gallon your car gets follow these steps:

- After a fill-up, record the odometer reading.
- The next time you fill up the gas tank, record the odometer reading again and how many gallons it took to fill the tank.
- Subtract the two-odometer readings and divide the number of gallons into the answer. This should indicate the number of miles per gallon your vehicle can travel on one gallon of gas.

## **Concept 3-4 AUTO MAINTENANCE**

### **Cos #26: Explain the importance of a vehicle owner's manual**

#### **Teacher Preparation**

The teacher will explain the importance of a vehicle owner's manual.

#### **Student Learning Activities**

The student will understand the importance of reading the vehicle owner's manual.

#### **Explanation**

The owner's manual for one's car furnishes guidelines for determining the time and mileage span for periodic checks and maintenance, particularly with respect to:

- Engine oil requirements and changing oil filters.
- Proper grade of gasoline
- Cleaning and replacing carburetor air filter
- Servicing air conditioners
- Power train maintenance
- Ignition system and spark plugs
- Engine performance evaluation

Because vehicle requirements may vary greatly, one should always check your vehicle's owner's manual to determine the manufacturer's recommended schedule of preventive maintenance. Following the schedule will save you from paying expensive bills later. Ignoring the recommended service intervals may also void the manufacturer's warranty on your vehicle.

### **COS #27: Identify maintenance checks that must be performed on a regular basis as outlined in the owner's manual.**

#### **Teacher Preparation**

The teacher will identify maintenance checks that must be performed on a regular basis.

#### **Student Learning Activities**

The student will be able to identify the maintenance checks that are necessary to be performed on a regular basis.

#### **Explanation**

Based on recommendations in the owner's manual of your vehicle, set up a routine maintenance schedule. Keep a record of when and what type of service is done, and whether you do the work yourself or have a mechanic do it.

<b>Typical Maintenance Schedule</b>				
Routine Maintenance	7,500 mi. or 6 months	15,000 mi. or 12 months.	22,500 mi. or 18 months	30,000 mi. or 24 months
Change engine oil	✓	✓	✓	✓
Replace engine oil filter	✓	✓	✓	✓
Lubricate steering linkage		✓		✓
Inspect brake lining			✓	
Replace air cleaner filter				✓
Replace spark plugs				✓
Inspect drive belt, adjust tension as needed				✓
Drain and refill automatic transmission fluid				✓
Drain and refill transfer case fluid				✓

<b>Other Routine Maintenance Checks</b>				
Routine Maintenance	Weekly	Monthly	Every 6 months	Once a year
Oil level	✓			
Windshield wiper fluid level	✓			
Radiator coolant level	✓			
Tire condition		✓		
Hose condition		✓		
Belt condition		✓		
Automatic transmission fluid level		✓		
Power steering fluid level		✓		
Clean dead bugs off of radiator grill		✓		
Wax the car to protect the paint		✓		
Check and clean battery cables and terminals			✓	
Check brakes			✓	
Check air conditioner refrigerant				✓
Check shock absorbers				✓
Replace air filters				✓
Replace windshield wiper blades				✓
Flush out radiator and refill with coolant				✓
Hose down undercarriage to remove dirt and salt after cold driving season				✓
Check headlight alignment				✓

The owner's manual will outline a specific schedule for your car. Most of the procedures should be done by a certified mechanic.

## Concept 3-5 VEHICLE ACCIDENT REPORTING

### COS #28: Explain the proper procedures concerning traffic accident reporting (Alabama Drivers' Manual).

#### Teacher Preparation

The teacher will explain the proper procedures concerning traffic accident reporting:

- Driver responsibilities
- Witness responsibilities
- Financial responsibilities

#### Student Learning Activities

The student will understand the procedures to follow when reporting a traffic accident.

#### Explanation

##### Driver Responsibilities when involved in an accident:

- Stop immediately and render any aid to injured persons. Don't move injured unless they are in a life-threatening situation.
- Warn other traffic of the accident by whatever means you have available (flares, triangles, cloth, etc.)
- Obtain medical help if needed
- Call the police and request an ambulance is necessary
- Give ones name, address, and your license number
- Ask other driver for same information
- Obtain names and addresses of any witnesses
- Make an accident report. According to state law, if there is an injury, someone was killed or damages exceeded \$250.00 a written report (Form SR-13) must be sent to the Department of Public Safety within 30 days of the accident. Accident reports and forms are available at the law enforcement agency.
- If your vehicle is involved with an unattended vehicle, either notify police, make an attempt to locate the owner of the parked vehicle, or leave a written notice in a conspicuous place on the unattended vehicle. The note should include your name and address. If a mishap damages any other type of property, notify the property owner.
- See a doctor. It could be several days or weeks before injuries become known following an accident. Waiting too long could reduce insurance coverage.

##### Witness Responsibilities when involved with an accident:

In the course of driving, one may see a crash or drive by shortly after one has occurred. What one does at such a time could have an important effect on the results of the crash. When reporting a crash be sure to give the exact location and probable damages and injuries. If an officer is already in charge, drive on unless directed to stop. Do not slow down to watch. Be alert for other drivers and pedestrians distracted by the crash.

*If one sees a crash or is the first to arrive on the scene:*

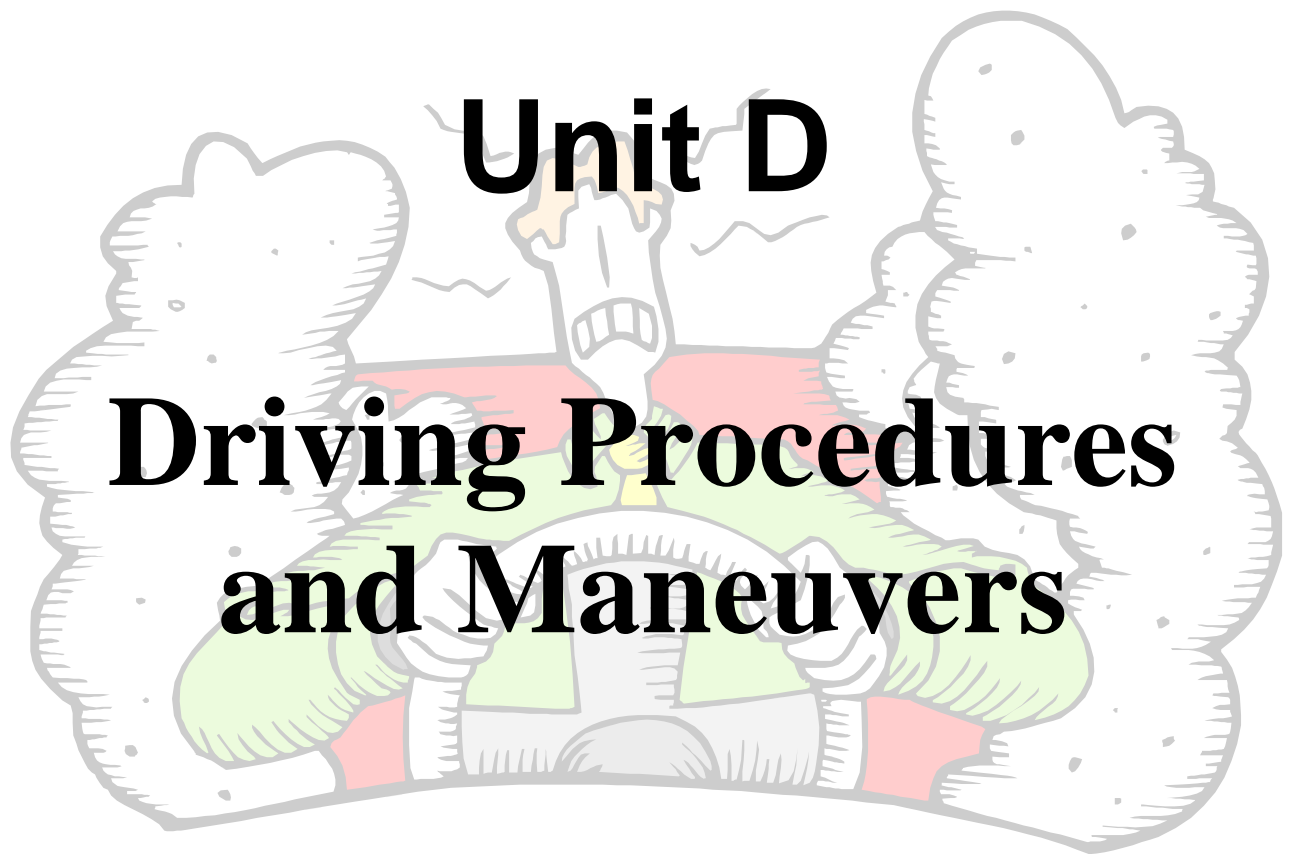
- Park the car well off the roadway.
- Turn off the ignition key to the wrecked car to prevent fire. Give aid to anyone injured.
- Recruit help from passing motorists or bystanders. Call police and a doctor or ambulance if one is needed.
- Have someone flag traffic from each direction at least 400 feet from the scene.
- Turn the headlight beams on the wrecked car on if they are blocking traffic.
- If explosives or inflammatories are involved, warn everyone to stay more than 600 feet away from the crash.
- Write complete notes about the crash in the event testimony is needed in a future lawsuit.
- Leave your name and address with the drivers who may need a witness.

*Financial responsibilities when involved in a crash:*

The legal consequences of a collision can be very severe. If a collision is the result of you having broken the law, you may, depending on the severity of the crash, be:

- Fined and have to pay court costs
- Have your license suspended or revoked
- Sent to jail

If you were intoxicated or under the influence of other drugs at the time of the crash, penalties could be much more severe.





# Driving Maneuvers and Procedures

## Concept 4-1 PRE-START CHECKS

### COS #29: Explain the pre-start procedure.

#### Teacher Preparation

The teacher will explain and demonstrate the proper pre-start procedures.

#### Student Learning Activity

The student will demonstrate proper pre-start procedures.

#### Explanation

It is highly important for a person to know and to understand pre-driving checks and procedures before driving. It is strongly recommended that these procedures become a part of your driving habits throughout your lifetime.

1. Check condition of tires, lights, car body, etc.
2. Check around the vehicle.
3. Check intended path of travel.
4. Close and lock doors
5. Adjust seats.
6. Adjust mirrors and head restraints.
7. Fasten seat belts

### COS #30: Explain the proper procedure for starting, stopping and securing the vehicle.

#### Teacher Preparation

The teacher will explain and demonstrate the proper procedures to start, stop and secure the vehicle.

#### Student Learning Activity

The student will demonstrate proficiency in starting, stopping and securing a vehicle safely and correctly.

#### Explanation

##### To start the car:

1. Make sure the car is in park (neutral for a manual transmission).
2. Depress the clutch pedal (only for manual transmissions).
3. Check for parking brake to be on (optional).
4. Turn the ignition key to the "On" position and check gauges, then on to the "Start" position. Release the key *as soon as the engine starts*.

##### To put the vehicle in motion:

1. Put foot firmly on the brake, using the right foot
2. Depress clutch pedal (manual transmission only)
3. Shift into desired gear (drive or reverse)

4. Release parking brake (if applied).
5. Check mirrors and blind spot.
6. Signal intentions.
7. Remove the foot from the brake (ease off clutch in manual transmission).
8. Apply gas pedal gently.
9. Cancel signal.

To stop and secure the vehicle:

1. Check traffic (mirrors and blind spot).
2. Signal intentions.
3. Lightly tap brake pedal to warn others you are slowing or stopping.
4. Apply smooth, steady, firm pressure to the brake pedal until the vehicle has stopped (apply clutch pedal in manual transmissions).
5. Set the parking brake (optional).
6. Shift into park (reverse for manual transmissions).
7. Take foot off brake (and clutch).
8. Check to make sure all optional equipment is off.
9. Unfasten seat belt.
10. Remove key.
11. Open door, exit curbside (if possible) and lock doors.

## **Concept 4-2 BASIC MANEUVERS**

### **COS #31: Identify situations in which speed slower than the posted speed limits is needed.**

#### **Teacher Preparation**

The teacher will explain situations where speeds under the posted limits may be needed.

#### **Student Learning Activity**

The student will understand that there are situations and areas where lower than posted speed limits may be needed.

#### **Explanation**

Because all roads are not straight and flat, they have hills, curves, and other highway changes, it may be necessary to have slower speeds in certain areas. Slower speeds may be necessary when approaching a crossroads, railroad crossing, hills, curves, or when approaching flags or flares on roads. **Advisory (flexible) Speed Limits** interrupt normal driving speed for a limited time. They provide guidelines for adjusting speed for the roadway changes. And, like all speed limits, are set under ideal conditions.

Some states have lower speed limits at night. Night driving is more dangerous because it is harder to see in the dark. Driving at lower speeds gives drivers more time to search for clues and identify **potential** hazards.

Driving under adverse conditions also requires reduced speeds. Drive at speeds that are reasonable and proper for the conditions.

## **COS #32: Explain proper steering procedures and rationale for the use of each.**

### **Teacher Preparation**

The teacher will demonstrate proper hand placement on the steering wheel and explain rationale for the use of each:

- Hand-over-hand steering
- Push-pull feed steering
- “9 and 3” or “8 and 4”
- “Thumbs up”

The teacher will demonstrate steering movements for:

- Steering forward in a straight line
- Steering in reverse
- Steering through turns
- Steering in turnabouts
- 

### **Student Learning Activity**

The student will demonstrate proper hand position on the steering wheel and correct steering movements.

### **Explanation**

#### **Hand Over Hand Steering**

Hand over hand steering is a steering method in which the driver’s hands cross when turning. To turn right using hand-over-hand steering, use your left hand to push the steering wheel up, around, and down. At the same time bring your right hand across your left forearm to grip the wheel on the far side. Then use your right hand to pull the side of the wheel up, around, and down. Reverse these instructions to make a left turn.

Hand-over-hand steering provides a safe and effective method of steering for sharp turns.

#### **Push-Pull Feed Steering**

Hold the steering wheel with the right hand resting between 3 and 5 o’clock and the left hand between 7 and 9 o’clock. One hand pushes the wheel up toward 12 o’clock. (Use the left hand for right turns and vice versa). About the same time, the other hand slides up to 1 o’clock for the right turn (or 11 o’clock for the left turn), grasp the wheel, and pull it down. While the pulling hand goes down, the pushing hand releases its grip and returns to its original position to continue the process as needed.

The push-pull-feed method of steering lets you keep both hands on the steering wheel at all times. This method can reduce fatigue on long drives and gives a driver better control in an emergency situation. This method of steering is safer in vehicles equipped with driver side air bags as the arms are not across the steering wheel at any time.

### “9 and 3”, “8 and 4” and “thumbs up”

When positioning hands on the steering wheel, picture the wheel as a clock and place hands at either the 9 and 3 o'clock position or the 8 and 4 o'clock position. Either of these positions provide best control in an emergency situation. The 8 and 4 o'clock position is safer in cars equipped with driver side airbags. With either of these hand positions always rest thumbs on the wheel, not wrapped around. This is for safety and a more relaxed, comfortable hold.

### Steering in a straight line

When steering straight ahead, steer to a point in the center of your path of travel, looking well ahead, not down. Make slight, constant corrections with the steering wheel, don't "oversteer" or wander in your lane.

### Steering in Reverse

When backing a vehicle, visibility through the rear window is limited. To maximize perception, turn your head and shoulders so that you can look back in the direction you want to move. When you move backward, the rear of your vehicle moves in the direction that you want to turn the steering wheel, while the front moves in the opposite direction. When steering in reverse do not use the mirrors very often, look in the direction your vehicle is moving.

### Turning Right and Left

**A Right Turn – is made by** checking the roadway, choosing the correct lane, communicating your intentions, and positioning the vehicle correctly. It is recommended to find a 6-8 second gap in traffic to your left. When your front wheels are opposite the point where the curb begins to curve, look through the turn along your intended path of travel.

As you turn, follow the general curve of the curb as you turn. Stay in the right lane by looking through the turn along the intended path of travel. Complete the turn by reversing your steering as you accelerate. Please cancel turn signal, if needed.

**A Left Turn** - The steps for executing a left turn depend on the type of street you are on and the type of street you are turning on to.

**Turning Left from a Two-way street onto a Two-way street** - Check and make sure that there are no vehicles, pedestrians, or other obstacles in your intended path of travel. Find a 9-second gap to your right and a 7-second gap to your left. Proceed into the intersection until you are about one lane width away from its center. Keep your wheel straight, by yielding to any approaching traffic and pedestrians in the intersection. When clear and after your front tires pass the curb follow the path of travel so that you arrive in the lane just to the right of the center line. Complete the turn by reversing your steering as you accelerate.

### Turnabouts

Before you make turnabouts, consider the following:

- Are there signs that prohibit the turnabout?
- Are there specific laws that prohibit the turnabout when there are no signs?
- Is there at least 500 feet of visibility in each direction?
- Are you near hills, curves, or within 200 feet of an intersection?
- Is there heavy traffic?

- Do you have enough space to complete the maneuver?
- Are there traffic and pedestrians in your path?

### Two-point or T-turn

The two-point or T-turn is one method to use when making a turnabout. You can pull forward into or back into a driveway to reverse directions.

### Heading into a driveway on the left

When you head into a driveway, you will have to back into the street. Select a driveway on the left that affords good visibility. Make sure there are no hedges or other objects that may obstruct your view of the roadway.

- Check traffic, signal a left turn, flash your brake lights, and stop if necessary. When the driveway is clear, turn into it as close to the right side as you can. This allows more room for the front of the car to swing left as you back to the right.
- When the rear bumper clears the edge of the roadway, stop with your front wheel straight. With your foot on the brake, shift into reverse gear.
- Look in all directions for pedestrians and over your right shoulder for traffic in your planned path. Back up slowly, rechecking traffic, and stop before crossing the curb.
- While slowly moving the vehicle back, turn the wheel quickly all the way to the right. Keep your vehicle in the first lane of traffic. Halfway through the turn, start to straighten the steering wheel.
- Stop when the front wheels are straight. Check mirrors and over your shoulders, signal, shift to drive or first gear and accelerate to traffic speed.

### Heading into a driveway on the right

Follow the steps for heading into a driveway on the left, but reverse the directions in Steps 1, 3, and 4.

### Three-Point or Y-turn

To make a three-point turn, recommended steps are listed:

- Check traffic, signal, and stop as close to the right edge of the curb as possible. Check for traffic in both directions. Wait until you have a 20-30 second gap to complete the turn.
- Signal to make a left turn. Look over your left shoulder for any vehicles in your blind spot. Then move the vehicle slowly while turning the steering wheel rapidly to the left to bring the vehicle into the opposite lane.
- When the front wheels are almost to the curb about four (4) feet away, turn the steering wheel rapidly to the right. Stop the vehicle just short of the curb.
- Check traffic to your left, then over your right shoulder. Shift into reverse, and while backing slowly, turn the wheel to the extreme right position. About four (4) feet before stopping, turn the wheel quickly to the left. Keep looking back until you have stopped the vehicle.
- Shift into drive or first gear, check traffic, signal, move into the proper lane, cancel signal if needed and accelerate to a normal speed.

### U-turn

**Be mindful that U-turns are illegal in certain places.**

To make a U-turn on a two-lane road after making sure the turn is legal:

- Check traffic, signal, stop your vehicle close to the right edge of the curb, check for traffic in both directions and signal a left turn. Check over your left shoulder again before starting the turn. Make sure that traffic is clear before turning.
- Turn the steering wheel rapidly all the way to the left, moving the vehicle slowly until it is facing in the opposite direction.
- When the turn is almost completed, straighten the wheels, and proceed in the proper lane at normal speed.

### Driving Around the Block

The fourth way to reverse directions is to drive around the block. This is often considered the easiest and safest method used.

## **COS #33: Explain procedures for different types of braking systems.**

### **Teacher Preparation**

The teacher will explain the proper procedures when using different types of braking systems.

### **Student Learning Activities**

The student will understand how to use different types of braking systems.

### **Explanation**

#### Anti-lock Brakes

Many vehicles have an anti-lock brake system (ABS), which is designed to keep the wheels from locking when the driver presses too hard on the brake pedal in an emergency. Since the wheels do not lock, the driver can continue to steer the vehicle. Anti-lock brakes do not shorten the stopping distance of a vehicle.

#### Disc Brakes

In a disc brake, pressure squeezes the brake pads against a flat metal wheel disc, producing the friction needed to stop the wheel from turning.

All new vehicles now have disc brakes on the front wheels. Many have them on the rear wheels as well. All new vehicles now also have power brakes, which require less pressure on the brake pedal than older non-power systems.

#### Drum Brakes

In a drum brake, the fluid pressure causes the brake shoes to push against the brake lining. The lining then presses against the round hollow metal drum inside the wheel. Friction slows and stops the wheel's turning motion.

### Parking Brakes

A parking brake is a mechanically operated brake that is separated from the hydraulic brake system. Attached by a cable to the rear wheels, it is used to prevent a parked vehicle from rolling. It can also be used in case of brake failure.

## **COS #34: Demonstrate the correct use of hand and mechanical signals.**

### **Teacher Preparation**

The teacher will explain and demonstrate the correct use of signals

### **Student Learning Activity**

The student will be able to use both mechanical and hand signals correctly.

### **Explanation**

#### Mechanical Signal

Your flashing red or amber directional, or turn signal sometimes called a “blinker” shows that you plan to turn or change lanes. To operate the signal, move the turn indicator arm up for right and down for left. According to the Alabama Driver’s Manual, signal at least 100 feet before making a turn and, as a good rule of thumb, signal before you start to brake. Normally, the signal lever clicks into position, and then clicks off when you straighten the wheel. If the signal does not stop flashing, move the lever back by hand.

#### Hand Signal

Hand signals should only serve as a temporary replacement for mechanical signals.

- Stop or Decreased Speed—hand and arm extended downward.
- Right Turn—hand and arm extended upward.
- Left Turn – hand and arm extended straight out.

When changing lane position or turning always make sure your intentions are known.

## **COS #35: Explain lane-changing procedures.**

### **Teacher Preparation**

The teacher will explain the proper procedures for making a lane-change.

### **Student Learning Activity**

The student will understand how to properly change lane position.

## Explanation

Never move from one lane to another until you make certain that you can do so safely. To change lanes safely, follow these steps:

- Check mirrors.
- Signal intention.
- Check blind spot (quick glance over the shoulder in the direction you are moving).
- Adjust speed as needed.
- Move smoothly when time and space permits.
- Cancel signal, if needed.

## **COS #36: Explain proper parking procedures.**

### Teacher Preparation

The teacher will demonstrate types of parking including angle, parallel, perpendicular and parking on hills.

### Student Learning Activity

The student will demonstrate an understanding of the procedures involved in the parking maneuvers.

## Explanation

When parking on a hill, you must make sure your car does not roll into traffic if the brakes do not hold. The procedures described here are for parking on the right or left side of the street.

### Uphill with a curb:

- Check traffic, signal, bring the vehicle to a stop in a normal parallel-parked position (6-12 inches from curb).
- Turn wheels away from the curb and slowly let the tires roll back until they touch the curb. Set the parking brake and shift to park (reverse or first for a manual transmission).

### Uphill Without a Curb

- Check traffic, signal, bring the vehicle to a stop in a normal parallel-parked position (6-12 inches from the shoulder).
- Turn wheels to toward the side of the road (to the right), set the parking brake and shift to park (reverse or first for a manual transmission).

### Downhill With a Curb

- Check traffic, signal, bring the vehicle to a stop in a normal parallel-parked position, (About 6-12 inches from the curb).
- Turn the wheels towards the curb (to the right) and slowly roll forward until the wheel touches the curb, set the parking brake and shift to park (reverse or first for a manual transmission).



### Parking Downhill Without a Curb

- Check traffic, signal, bring the vehicle to a stop at a normal parallel-parked position. (About 6-12 inches from the curb).
- Turn the wheels toward the side of the road (to the right), set the parking brake and shift to park. If your vehicle has a manual transmission, shift into first or reverse.

### Angle Parking

To execute angle parking on the right, follow these procedures:

- Stay 5 or 6 feet from parked vehicles to give yourself room to see and maneuver. Observe traffic in all directions and be alert for vehicles about to leave nearby spaces. Signal as if you were making a right turn.
- Proceed until you can see along the left side of the vehicle to the right of the space you will enter. Steer sharply right and creep ahead at 3-5 miles per hour into the space midway between the lines. Check the left front and right rear of your vehicle to make sure you have clearance.
- As you straighten the wheels, move forward until the front of your vehicle is aligned with those on both sides.

### Perpendicular Parking

Perpendicular parking spaces are marked at a 90-degree angle to the curb or line. To enter a perpendicular parking space on the right, follow these steps.

- Stay 7 to 8 feet from parked cars for best visibility. Observe all traffic conditions, and check for vehicles about to back out of other spaces. Put on proper signal for a right turn.
- Slow down to 3 to 5 miles per hour. Start turning right when you can look down the right side of the vehicle parked to the right of your chosen space. Steer sharply and proceed slowly, checking for clearance of your left front bumper. Check your right fender to see that it does not scrape the rear of the vehicle on your right.
- As you straighten the wheels and center in your space, move forward slowly and stop just short of the curb or in line with the vehicles parked beside you.

### Parallel Parking

To parallel park, it is recommended to have a space at least 5 feet longer than the length of your vehicle.

- Check traffic, signal, and approach the parking space in the proper lane, flashing brake lights to alert following drivers of your intention to stop.
- Move parallel to the vehicle in front of the space, leaving about 2 feet between vehicles. Stop when the center doorposts, or the backs of the front seats of the vehicles are even. Keep your foot on the brake, and shift into reverse.
- Back up, steering sharply to the right. Align the back of the front seat with the rear bumper of the vehicle in front. Continue backing slowly, straightening your front wheels, until your front bumper lines up with the rear bumper of the vehicle in front.
- Back up, steering rapidly to the left. Stop before making contact with the bumper of the vehicle behind the space.
- With foot on brake, shift into Drive or First and even up car in space. Car must be within 12 inches of the curb.

## Concept 4-3 DEFENSIVE DRIVING

### COS # 37: Explain the Smith System of accident-free driving.

#### Teacher Preparation

The teacher will explain the backbone of safe driving--the Smith System.

#### Student Learning Activity

The student will be able to list the advantages of using this system while driving. Students should explain and demonstrate the five techniques of defensive driving.

#### Explanation

The Smith System is a series of principles designed to help one drive safely and defensively. The Smith System consists of 5 important guidelines. They are:

- **Aim High** means to look well ahead of your vehicle as you drive. As a general rule, try to look about 20 to 30 seconds ahead.
- **Get the Big Picture** means to search the whole scene, not just a part of it. As you approach an intersection, for example, you need to search for vehicles, pedestrians, and others. The Gestalt theory in education reveals that “the whole is greater than part.”
- **Keeping Your Eyes Moving** means searching the scene constantly. Stay alert for changes on or near the roadway or potentially dangerous conditions that might require you to make adjustments.
- **Make Sure Others See You** means to communicate with drivers and pedestrians. Position your vehicle so that others can see you, signal your intention to turn, and tap the brake pedal so that you are slowing or stopping.
- **Leave Yourself A Way Out** signifies a path of escape. Position your vehicle so that you keep a margin of space to avoid a collision.

### COS # 38: Discuss the SIPDE process for defensive driving.

#### Teacher Preparation

The teacher will explain and demonstrate the steps of the SIPDE process.

#### Student Learning Activity

The student will be able to apply the SIPDE process in everyday driving.

#### Explanation

The SIPDE process is an easy-to-use system for dealing with the driving challenge. SIPDE is an acronym for a 5-step process for defensive driving:

- **Search** the roadway and the off-road areas 20 to 30 seconds ahead for information that can help you plan a path of travel.
- **Identify** objects or conditions within 12 to 15 seconds ahead that could interfere with your planned path of travel.
- **Predict** what actions or changes in conditions on or near the roadway could increase possible danger.

- **Decide** what action or actions to take (such as steer right, left, brake, increase speed, reduce speed, etc.).
- **Execute** the decision you have made. Executing a decision in most cases is making a routine maneuver. You might have to take some kind of emergency action.

### **COS #39: Explain how laws of nature affect vehicle control.**

#### **Teacher Preparation**

The teacher will explain how natural laws affect driving an vehicle control.

#### **Student Learning Activity**

The student will demonstrate an understanding of how natural laws will affect safe driving.

#### **Explanation**

Natural laws like inertia, gravity and momentum affect a driver's ability to safely perform the driving tasks. For example:

Inertia is what causes items on the seat to slide forward when brakes are applied. Two properties govern inertia—one is that objects at rest rest remain at rest until acted upon by some force and the other is that objects in motion continue to move in a straight line until some force stops them. The best way to counteract the effects of inertia is to wear your seat belt and insure that all objects are secure.

Friction is a force between two surfaces that resists the movement of one surface across the other. This force is what tries to make your tires stick to the road surface. Friction between the road and the tires is called traction. If your tires lose traction then your vehicle can go into a skid.

*Here are some factors affecting traction.*

- **Tire Pressure**-Tires are made with grooved surface treads that are designed to grip the road in a wide variety of conditions. For best traction, inflate tires to the maximum pressure recommended by the manufacturer. Properly inflated tires grip the road evenly. Under-or over-inflation reduces traction. If you under-inflate your tires, only the outer edges grip the road. If you over-inflate them, only the centers tend to make contact with the road.
- **Tire Condition**-Would you try to walk on slippery packed snow or ice with rubber boots worn smooth? Of course not! You would slide all over. The same concept applies to tires. Bald tires—tires with very little or no tread—provide almost no traction on wet, icy, or snow-covered roads. Even on dry roads, bald tires reduce directional control, particularly if there is sand or debris on the road, and are more apt than treaded tires to get punctured.
- **Rain**-When the road is wet; water gets between the surface of the road and the tires. At 55 mph, tires can lose contact with the road surface if the water is as shallow as 1/12 inch. Water provides a smooth, nearly frictionless, surface for the tires to move across, and it does not provide good traction. If tires are properly inflated and have

good tread, much of the water will go into the grooves between the treads. This means that the treads themselves will maintain contact with the road surface.

- **Ice and Snow**-Ice and snow can reduce traction more than rain. Traction is poorest near 32°F, when snow and ice start to become a slippery, watery slush. Any road is dangerous when covered with ice or snow, so adjust your driving habits accordingly. Snow tires help increase traction in snow but not necessarily on ice. Chains are helpful in increasing traction on ice, but they provide poor traction on pavement. In states where studded tires are allowed, they can help on ice but are not as effective as chains. All-weather tires are a good choice for most drivers.
- **Road Condition**-Road condition also affects traction. Tough roads and potholes make your vehicle's tires bounce up and down, reducing traction. Wet leaves on the road also reduce friction, causing the tires to lose traction and slide.

Momentum is the product of weight and speed. The faster a vehicle is moving the greater the damage in a collision. This is affected by the weight of the vehicle.

Kinetic energy is the energy of motion. The faster a vehicle moves the more kinetic energy it has. The faster a vehicle moves the more time and distance it will need to counteract the effects of kinetic energy.

Gravity is the force that pulls all objects toward the center of the Earth. Gravity is what makes vehicles going downhill speed up and what makes one accelerate more to maintain speed going up a hill.

Center of gravity is the point about which weight is distributed. The lower the center of gravity the more stable a vehicle becomes. Adding items to the top of a vehicle raises its center of gravity and increases its chances of a rollover.



**Unit E**  
**Factors Related to**  
**Youthful Drivers**

# Factors Related to Youthful Drivers

## Concept 5-1 INEXPERIENCE

### COS #40: Explain the relationship between inexperienced drivers and traffic crashes.

#### Teacher Preparation

The teacher will explain the relationship between inexperienced drivers and traffic crashes by using the following resources:

- \* Alabama Accident Facts
- \* Information from NHTSA about teen accidents
- \* Facts from the Highway Loss Data Institute
- \* Web Sites for these and others are located in the 1999 Alabama Driver Education Course of Study

#### Student Learning Activities

Student will learn the relationships between:

- Inexperience
- Traffic accidents
- Injuries
- Deaths

Student will learn accident facts that relate to them (i.e. the first six months of a drivers license is the most dangerous).

#### Explanation

There is no question among law enforcement and educators that inexperience is a major factor in the death and injury of hundreds of youthful drivers in Alabama each year.

NHTSA, the National Highway Traffic Safety Administration, states that a new driver needs a minimum of two hundred hours behind the wheel before they are competent to drive in normal traffic. This inexperience can show up in many different ways; peer influence, speeding, and distractions are just a few. Even very well trained, good young drivers need time behind the wheel to experience all the different factors that drivers must face in both normal and extreme traffic conditions. As we drive a vehicle over an extended period of time, we see more and more of the types of traffic experiences that will make us a safer and more well rounded driver. Experiences like driving in extreme weather, night driving, driving in non-familiar surroundings or driving a disabled vehicle will add to our driving skill. All new drivers regardless of age need to allow themselves adequate time to really learn how to drive in all conditions.

## **Concept 5-2 PEER INFLUENCE**

### **COS #41: Evaluate the negative impact of peer influence on youthful drivers.**

#### **Teacher Preparation**

Teacher will explain how peer influence can distract from the driving task.

- Alcohol and other drugs
- Dares
- Speeding
- Reckless driving

#### **Student Learning Activities**

Students will identify and list the ways that peer influence might distract them while driving.

#### **Explanation**

Peer influence is one of the leading factors in many accidents that young drivers are involved in. Peer Influence on issues like drinking alcohol and driving, showing off in front of our peers, and driving in a reckless manner are all REAL challenges that many young drivers will face every day. While peer pressure may not affect all of our young drivers, peer influence is all around them. The phrase “everybody does it” is still as common today as it was when we were teenagers. Speed and driving in a reckless manner is still a thrill to many young drivers, and the fact that they are finally “on their own” only adds to its mystique. We as educators must stress the dangers of these and other influences on our students, while we try to teach them that their own good common sense and the training they receive from us should always be their guides.

## **Concept 5-3 SPEEDING**

### **COS #42: Explain the relationship between speed and traffic fatalities.**

#### **Teacher Preparation**

The teacher will explain the relationships between:

- Speeding
- Traffic accidents
- Fatalities

This information can be obtained using the Web Sites listed in the 1999 Alabama Driver Education Course of Study.

#### **Student Learning Activities**

Students will discuss how speeding can lead to:

- Traffic accidents
- Injuries
- Deaths

In addition, students will list the benefits of slower speed (i.e. Greater reaction time and increased fuel mileage).

## **Explanation**

While speeding with other teens in their vehicle is a common occurrence, for many teens driving above the speed limit is a normal way to drive. Never suggest to students that driving above the posted speed limit is an acceptable way to drive. We all have had students tell us that their parents routinely drive five to seven miles above the posted limit. Stress to your students that while some law enforcement officers may not ticket people driving a “few” miles above the limit, speed limit laws are set for many different reasons and we should always drive within the posted limit. Stress that the student should never drive at a speed that is faster than the conditions safely allows.

Explain to your students that increased speed leads to increased damage when an accident does occur. Refer to Alabama Accident Facts and show the correlation between speed and traffic deaths.

Have your students list the many benefits of driving within the posted speed.

Examples include:

- Increased reaction time
- Better fuel mileage
- Shorter stopping distance
- Increased vehicle life
- Better driving record

## **Concept 5-4      DISTRACTIONS**

### **COS #43: Identify distractions that result in inattention while driving.**

#### **Teacher Preparation**

The teacher will discuss how common distractions can result in driver inattention while driving.

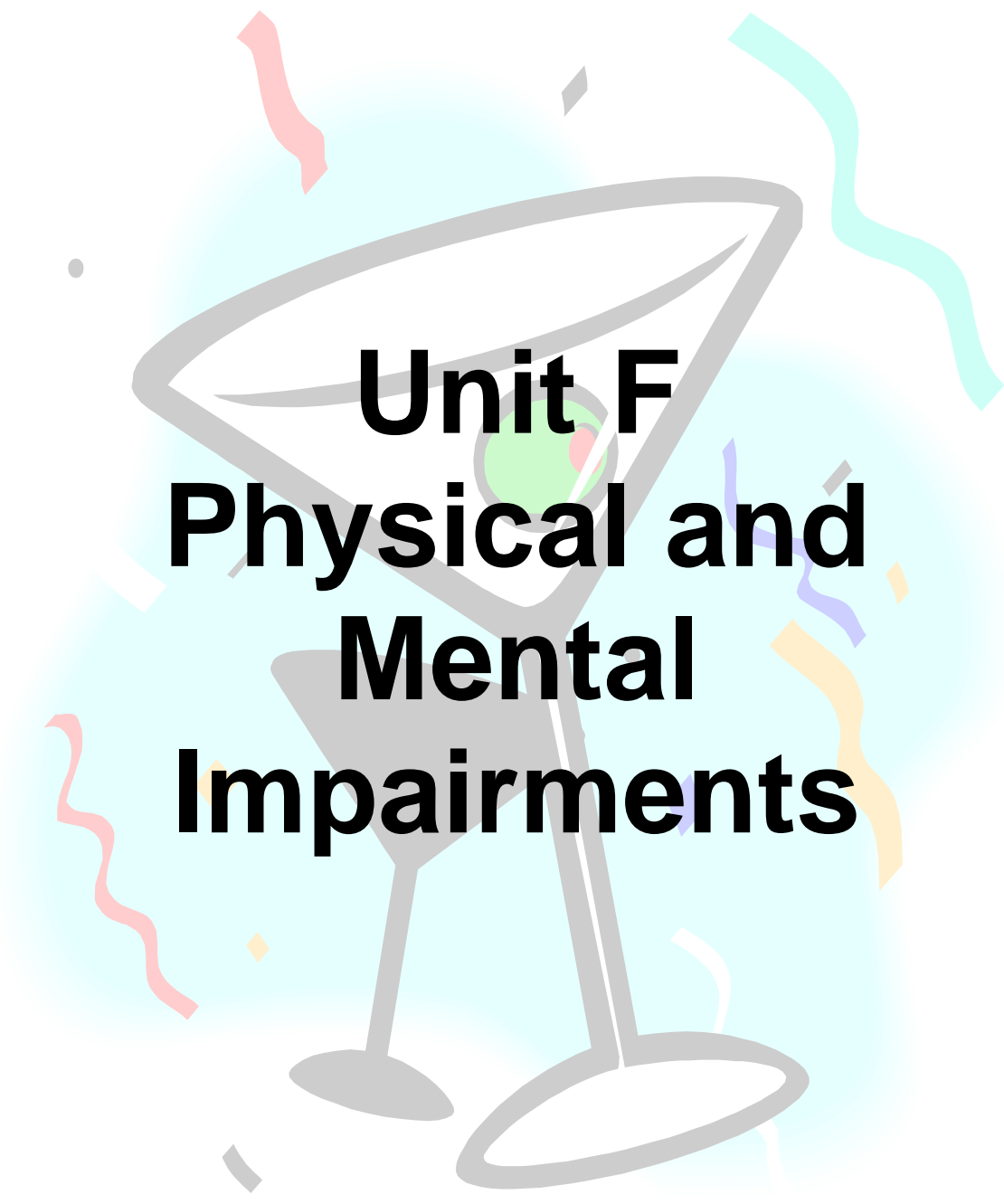
#### **Student Learning Activities**

Students will list the most common distractions and how they can be eliminated (i.e. Eating, talking on phone, and grooming).

#### **Explanation**

Cell phones, eating, socializing, loud music, putting on make-up, all these things are distractions that can and will take our minds off the driving task. We need to teach our students that proper driving technique has no place for these distractions. If a person has an emergency and needs to summon help with a mobile phone, the safe and proper way to do that is to pull safely off the right-of-way before using their phone. Eating, socializing, putting on make-up, and trying to read are best done from the passenger seat or in a stopped vehicle, but not while in control of a moving vehicle. While loud music may not seem to be a distraction to teenagers, there is no doubt it impairs a drivers ability to hear a warning siren, train whistle, the horn of another vehicle or even the sounds of their own car.





# **Unit F Physical and Mental Impairments**

# Physical and Mental Impairments

## Concept 6-1—ALCOHOL AND OTHER DRUGS

### COS #44: Define the two general types of drugs.

#### Teacher Preparation

The teacher will explain the two general types of drugs: prescription and non-prescription.

#### Student Learning Activity

The student will understand the two general types of drugs and how they affect the driver.

#### Explanation

There are two general types of drugs:

##### 1. Prescription

- These are drugs that are prescribed by a doctor
- These drugs are required by law to bear “adequate directions for use” If used with the frequency and in the amounts stated in these directions, there is no danger in driving a motor vehicle unless a warning is presented on label.
- Do not think that because one tablet helps, that two will be more helpful. Two tablets could affect the nervous system, reduce your alertness, and impair driving performances.
- The doctor indicates direction for use to you or the druggist. These directions should be followed exactly, not only to accomplish their purpose, but also to prevent dangerous side effects.
- The brain is the first organ in the body affected by drugs used in excess of directions. Ability to function, to be alert, to see, and prevent dangers is often destroyed.

Different drugs have different effects on body functions – all detrimental to driving performance.

##### 2. Non-prescription

These may include over-the-counter drugs-those that can be purchased legally without a doctor’s prescription and, most serious, illegal drugs such as:

**Narcotics** (morphine, cocaine, and heroin) are the most powerful and dangerous forms of drugs.

- In extreme cases, they are prescribed by a physician to relieve pain in disease, trauma, and burns.
- They have a depressant effect on the central nervous system, which produces drowsiness, inability to concentrate, impaired vision, and sluggishness; but at the same time they provide a feeling of well being (euphoria) or apathy.
- Usually narcotics are habit forming and furthermore, when the supply is cut off, serious painful withdrawal symptoms may develop.

- Drug addicts also drive automobiles and the hazards are rather obvious.

**Marijuana** (“reefer, pot, weed”), a natural drug rolled in cigarette paper and smoked, produces effects in the user particularly dangerous when operating a motor vehicle.

- In the early stages, the user may appear animated and hysterical, while in the later stages sleepiness and stupor result.
- A person who becomes psychologically dependent and takes a heavy dosage may experience hallucinations – and the mood may swing from joy to extreme fear or panic.
- Marijuana intoxication does not impair motor coordination so rapidly, so a user may operate a car while his concepts of time and space (depth perception) are radically distorted.

**Amphetamines** (“bennies, co-pilots, crank, crack”) are useful in treating certain illnesses or for controlling obesity, when used under medical supervision, but when carelessly used can be a threat to highway safety.

- They have a stimulating effect on the nervous system, increasing alertness and efficiency for a short time.
- Temporary effect may be followed by headache, dizziness, and irritability, decreased ability to concentrate, and marked fatigue.
- Operators may see things in the road that are not really there – mirages or hallucinations.
- Operators need to consider that excessive unsupervised use interferes with the body’s normal proactive symptoms of drowsiness and fatigue (feeling of exhaustion is short circuited), causing the driver to use the reserve of body energy until a total and sudden collapse may occur.
- Legally, amphetamines can be sold only in drug stores, upon a doctor’s prescription, but they are “bootlegged” and sold for enormous profit to truck drivers and young persons to keep awake.

**Barbiturates** (“sleeping pills, candy, barbs”) are useful medicines to calm nervousness and produce sleep in persons with medical problems. However, uncontrolled use can lead to serious consequences.

- They are habit forming and sometimes lead to addiction to true narcotics; therefore, they may not be sold legally without prescription (pushed by underworld peddlers for this reason).
- The natural tolerance for barbiturates varies from one person to another (greater tolerance does not preclude addiction).
- Excessive use produces symptoms similar in some respects to alcoholic intoxication (drowsiness, confusion, inability to coordinate muscular actions, difficulty in thinking or talking clearly).
- Even the occasional user will become drowsy and less alert. This reduces the driver’s ability to identify, predict, decide, and act.
- They should never be used except under a doctor’s instructions and never while driving.

**Tranquilizers** identify a group of preparations that are muscle relaxants, affecting some reflexes to relieve mental apprehension (attitude and outlook).

- Relatively mild compared to barbiturates; but if excessive dosages are used repeatedly they can result in sedation to the point of dizziness, drowsiness, and blurred vision.
- Physical dependence can develop if used excessively.
- Fall under the Federal prescription drug laws, although some preparations are compounded with other substances to contain a small amount of tranquilizer and sold without a prescription.
- Even those sold over the counter, such as inhalants, may have such a depressant effect on the central nervous system that driving performance will be dangerously impaired.
- Particularly dangerous when used along with other drugs or alcohol (synergetic effects).

**Antihistamines**, which are used for relief of nasal congestion due to colds, to combat allergies, and for other purposes, can also seriously impair one's ability to operate a motor vehicle.

- Have a depressant effect on the central nervous system.
- May cause side effects such as inattention, confusion, and drowsiness.
- Effects vary from person to person and are rather unpredictable (one person feels nothing; one is overcome with the desire to sleep; and one suffers genuine hallucinations).
- Some preparations containing a quantity of antihistamines compounded with other substances may be sold without prescription ( Contac, Dristan, etc. are examples).

**Inhalants** are substances whose fumes are sniffed and inhaled to give the abuser a feeling of being "high" or drugged. Gasoline, paint, paint thinner, glue, and aerosols are all included among inhalants.

- Inhalants' effects on the body include: nausea, sneezing, coughing, nosebleeds, fatigue, lack of coordination, and loss of appetite.
- Heart and respiratory rates are affected.
- Long-term use can result in brain, liver, and kidney damage. Repeated sniffing can also permanently damage the nervous system.
- Effects on driving include: impaired judgment, reduced coordination, and disorientation.

There is little scientific evidence as to the extent to which drugs and medicine (with the exception of alcohol) contribute to prevention or cause of highway accidents, but simple analysis tells us that uncontrolled use can be harmful to the health of the user and make it unsafe for him to operate a motor vehicle.

- Under medical supervision drugs are useful in treating certain illnesses, but about one-half of the millions of capsules and tablets manufactured annually are sold illegally (organized crime rings bootleg them).
- The effect of drugs does not in itself cause automobile accidents, but may cause a change in the physiological state of an individual that would impair him in his ability to safely operate a motor vehicle.
- Some people use drugs for their "side effects" or for reasons other than their intended purposes. (Drivers use them to keep awake.)

- The effect of drugs and alcohol in combination equals more than “one-plus-one,” and this is true also of other combinations of drugs. (One drug intensifies the effects of the other in a synergetic effect.)
- Drugs, like alcohol, first affect the higher brain and nerve centers, which control reason, judgment, self-control, and normal inhibitions and as a result render the person incapable of evaluating his fitness for driving.
- What you do about drug use and driving is an individual matter, but the responsible person considers the consequences of misuse and avoids any combination of drugs and driving that causes a foolish risk to himself and others.

### **COS #45: Generalize the effect alcohol and other drugs have on driving ability**

#### **Teacher Preparation**

Teacher should explain what happens to alcohol from the time of ingestion until elimination.

#### **Student Learning Activity**

The student will understand how alcohol and other drugs affect the body and reduce driving ability.

#### **Explanation**

All of the capabilities required to operate a motor vehicle are particularly susceptible to the effects of alcohol (identifying, predicting, deciding, and executing).

The driving ability of most persons becomes impaired *before* they display *outward* signs of motor impairments and other noticeable effects.

The insidious effect of alcohol on judgment and self-control, even in the early stages, is particularly serious.

- Since self-criticism is affected early, the drinker often is unlikely to recognize any change in his behavior.
- Even more serious is the likelihood that he feels more perceptive and skillful; therefore, is likely to take more chances in passing, speeding, or negotiating curves (self-confidence increases as skill decreases—the worst possible combination).

Reduced input of sensory data (effect on vision) plus diminished ability to identify and analyze the data, which is absorbed (effect on reasoning center) combine to impair the driver’s decision-making ability.

Responses are slowed and muscular coordination impaired due to alcohol’s effect on the nerves, which control the muscles. This could make a critical difference in stopping distance and the ability to maneuver the vehicle.

Those who have been drinking, especially heavily, are probably far less likely to follow sensible safety practices, such as signaling intentions, fastening seat belts, and other normal precautions.

Some individuals drive time and again after drinking and do not have an accident, reinforcing their belief (misconception) that alcohol does not lead to greater danger on the highway.

Even though some individuals, after a few drinks, exceed the driving competence of other persons who have not consumed any alcohol, it behooves everyone to be at his optimum performance level when driving.

Alcohol is likely to affect driving performance of young drivers more than adults.

- The young person who drinks lacks experience in compensating for the effect of alcohol.
- The young driver is an inexperienced driver; hence his skills are less automatic and more inclined to deteriorate from alcohol's effect.
- Risk taking, especially strong in young people, may be accentuated by alcohol.
- On the average, the body weight of young people is less than adults.

When ingested, alcohol is directly and quickly absorbed into the bloodstream through the lining of the digestive tract, carried by the blood to all parts of the body (including the brain), and finally oxidized or eliminated.

Alcohol does not have to be digested slowly, as most other foods must be, before reaching the bloodstream.

The rate at which alcohol enters the bloodstream through the walls of the stomach and small intestine depends upon the:

- Rate at which alcohol is ingested
- Total amount of alcohol involved
- Other components of the drink—straight liquor is absorbed fastest of all; liquor diluted with water is absorbed more slowly
- Characteristics and amounts of other foods and beverages also present in the stomach

Alcohol is carried by the blood to all body tissues and distributed in proportion to the water content of the body material. (Weight of the person is a significant variable.)

Alcohol cannot be stored in the body for any length of time like some foods; it is circulated throughout the body until it is oxidized.

- Oxidation is a series of chemical changes that enables food to release energy.
- Most oxidation takes place in the liver, which needs about 1 hour to burn up ½ ounce of pure alcohol.
- A small percentage (5 to 10 percent) of the alcohol is eliminated by the kidneys, breath, and sweat glands.

How much alcohol reaches the brain at one time is determined by how much the person drinks and how closely spaced those drinks are.

When the consumption of alcohol and its absorption in the body is faster than the oxidation rate, alcohol and its effects will “pile up.”

The concentration or percent of alcohol in the blood at any given time can be measured accurately by blood, breath, or urine analysis, but a rough guide for a 150-pound person is that each drink increases the concentration of alcohol in the blood by 0.02 percent.

- The average drink of whiskey (1 ounce), wine (3 ½ ounces), and beer (12 ounces) all contain about one ounce of alcohol.
- Liquors (rum, gin, vodka, brandy, and whiskey) contain 40 to 50 percent alcohol; dessert or cocktail wines (ports and sherries)—18 to 21 percent; ordinary table wines—up to 14 percent.

## **COS #46: Explain the synergistic effect of alcohol and other drugs.**

### **Teacher Preparation**

Teacher can present information on how the brain is affected by alcohol and other drugs, and in turn, how it affects physical movement and coordination.

### **Student Learning Activity**

The student will understand how the brain, as well as, physical control is affected by alcohol and other drugs.

### **Explanation**

As the alcohol concentration in the bloodstream builds up, body functions are affected.

In spite of deceptive outward signs (flushed face, animated behavior, etc.), alcohol operates as an anesthetic by deadening the nerve centers, and therefore is identified as a *physiological depressant*.

- A person may feel excited and pepped up; nevertheless, the nervous system is being depressed not stimulated.
- Alcohol does not “step on the gas” for us (stimulant), it simply “paralyzes the brakes” (depresses).

Alcohol’s paralyzing, numbing effect on the brain begins at the higher center (cerebrum) and moves toward the lower center (medulla) of activity, as the concentration of alcohol in the bloodstream increases. (The parts of the brain are affected in reverse order of their development.)

- First, the fore lobes (cerebrum) of the brain are affected; resulting in decreased ability to reason and make judgments, weakened social inhibitions, and changed attitudes toward others.
- As the concentration increases, more of the forebrain is affected and, in addition, alcohol reaches the cerebellum, which controls sensory-motor functions. The result is emotional instability, retarded responses, impaired vision, and uncoordination.
- At higher levels of concentration the person is unable to stand or walk and then loses consciousness. Death results when all of the brain, the upper spinal column, the respiratory and heart control centers are anesthetized.

The effects of alcohol increase approximately as the square of the blood alcohol concentration. For example: 0.08 percent concentration is not twice as bad as 0.04 percent, but instead four times as bad.

## **COS #47: Define Blood Alcohol Concentration (BAC).**

### **Teacher Preparation**

The teacher will explain BAC in relation to drinking

### **Student Learning Activity**

The student will have an understanding of Blood Alcohol Concentration.

## Explanation

Blood Alcohol Concentration (BAC) is the percentage of alcohol in the blood. This is the determining factor in DUI (Driving Under the Influence of an Intoxicating Agent) arrests and convictions.

## Concept 6-2 Alabama's Driving-Under-the-Influence (DUI) Laws

### **COS #48: Identify levels of legal intoxication under the DUI Law.**

#### Teacher Preparation

The teacher will explain to the class the legal level of intoxication according to the DUI Laws of Alabama.

#### Student Learning Activity

The student will understand legal levels of intoxication in Alabama

#### Explanation

In Alabama, an adult is considered legally drunk when their BAC registers at .08%. An adult is considered "legally impaired" when their BAC is between .04 and .07%. For a minor (under the legal drinking age of 21) Alabama has a "zero tolerance" law. The actual level of intoxication is .02%, this is to allow for cough medicines or mouthwashes that may have some alcohol present. But, one drink will put a minor above the legal intoxicated level.

### **COS #49: Explain the levels of punishment under Alabama law as related to driving under the influence of alcohol and other drugs.**

#### Teacher Preparation

The teacher will explain the Alabama DUI laws.

#### Student Learning Activity

The student will gain an understanding of the most recent DUI Laws in Alabama.

#### Explanation

*Driving While Under the Influence Laws according to the Revised Alabama Driver's Manual of 1999 are:*

Under state law, it is unlawful for any of the following persons to operate or be in actual physical control of a vehicle:

- A person who is under the influence of alcohol or drugs.
- A person who is under the influence of a drug to a degree, which renders him incapable of safely operating a motor vehicle.
- A person whose blood contains 0.08 percent or more concentration of alcohol.
- A person under the combined influence of alcohol and a drug to a degree, which renders him incapable of safely driving.
- Commercial vehicle operators whose blood alcohol content is 0.04% or more.



- Persons under 21 years of age whose blood alcohol content is 0.02% or more.

Stiffer penalties for drunk drivers are provided in a bill signed into law in 1995. Penalty for a **first conviction** is a fine of \$500 to \$2,000, up to one year in jail or by both fine and imprisonment. In addition, the driver license will be suspended for 90 days.

For a **second conviction** in five years the fine ranges from \$1,000 to \$5,000, a jail sentence of up to one year, or both fine and imprisonment. A mandatory 48 hours jail or 20 days community service and one-year revocation of driver license is required after a second conviction.

For a **third conviction**, the fine ranges from \$2,000 to \$10,000, and the driver license will be revoked for three years. In addition to the fine, the offender may be sentenced up to one year with a mandatory minimum sentence of 60 days in jail, which may not be probated or suspended.

A **fourth conviction** is a Class C felony. Fines range from \$4,000 to \$10,000, with a five-year revocation of driver license. Additionally, the offender may be imprisoned for not less than one year and one day or more than 10 years.

### **COS #50: Explain Alabama's Implied Consent Law in relation to alcohol consumption while driving.**

#### **Teacher Preparation**

The teacher will explain the Implied Consent Law

#### **Student Learning Activity**

The student will understand the Implied Consent Law and how it effects their driving status.

#### **Explanation**

The implied consent law states that anyone who operates a motor vehicle upon the public highways of Alabama shall be deemed to have given their consent to a chemical test(s) of their blood, breath or urine to determine blood alcohol content. If a driver refuses to submit to one of the chemical tests that shall have their license suspended.

### **Concept 6-3      SHORT-TERM IMPAIRMENTS**

#### **COS #51: Understand the effects of emotional short-term impairments**

#### **Teacher Preparation**

The teacher will explain the effects of short-term impairments, such as road rage and other emotions, on driving safely.

#### **Student Learning Activity**

The student will understand methods to prevent the effects of emotions on safe driving.

## Explanation

Emotions (fear, love, hate, joy, excitement) have a profound effect on behavior in general and driving in particular.

A single emotion is a strong feeling of one sort or another, typically involving both mental and physical responses.

- Emotions affect the part of the brain, which controls thought, reason, and judgment.
- Most emotions are temporary; but emotional habits sometimes develop, causing one to act the same way over and over again.
- The mental state that a driver brings to the driving task frequently influences his driving performance.
- Emotions are contagious and can influence others. A driver can become angry, causing another driver to become angry, and so on.

Driving proficiency can be increased by developing the habit of evaluating emotional fitness to drive and:

- Putting aside those problems, which tend to distract attention from the driving task.
- Waiting until the strength of the emotion subsides to a safe level before assuming the driving task.
- Selecting an alternative means of reaching the destination if emotions are so strong that one cannot perform the driving task safely.

There are certain bad-risk drivers that make driving a risk for all the other drivers.

### Some of these bad-risk drivers are:

- Egotists—An egotistical driver is dangerous to other drivers because he is so wrapped up in his own abilities that he is not concerned with anybody else. He takes unnecessary chances because he feels that his superior driving ability will always prevail.
- Rationalizers—This driver can always come up with some argument to reinforce his unsafe behavior. For example, he tailgates because if he didn't someone would cut in front of him anyway. Or if he runs a stop sign, it is because everyone else does.
- Show-Offs—The show-off is a dangerous driver because he constantly tries to show his driving abilities by taking unnecessary chances.

### Mental factors:

- Highway hypnosis—A dulled condition caused by concentration on the road ahead and the monotony of hours of driving. This condition is similar to going to sleep at the wheel, and the dangers are evident.
- Attention span—A factor in driving because the least amount of inattention while driving can result in a fatal accident. If one begins to feel drowsy, he should lower the windows, play the radio, or take a rest stop.

Road Rage is the term given for severe emotional outbursts while driving.

These severe outbursts while driving may be caused by many reasons. Some of the more common ones are: cutting another driver off in traffic, following another driver too closely, loud or obnoxious music, and making obscene hand gestures.

To avoid a “road rage” confrontation drivers should follow these simple steps:

- Drive in a courteous manner. Let other drivers have the right-of-way in close situations.
- Do not exchange words or hand gestures with offensive drivers regardless of fault.
- Keep a safe following distance even in heavy traffic. Studies show that this is the main factor in road rage confrontations.
- Never stop to confront another driver. If you find that another driver is following you, drive to the nearest police station, fire station, or other safe place where assistance may be found.

## **COS #52: Understand the effects of physical short-term impairments on driving.**

### **Teacher Preparation**

The teacher will discuss the physical, short-term impairments that can effect driving ability.

### **Student Learning Activity**

The student will understand that physical ailments that are short-term can effect the ability to drive safely.

### **Explanation**

Fatigue is the most common condition that lowers one’s fitness to drive. Fatigue may come from lack of sleep or other causes. Often it is caused by emotional stress. It dulls the mind, lengthens decision-making time, and slows nerve and muscular responses.

Rest is the only remedy for fatigue. “Pep pills” can relieve fatigue for short periods of time, but they use the body’s reserve energy. When the effect of the pills wears off, they leave the person near a state of collapse. “Pep pills” may also cause headaches, dizziness, or delusions in some people.

Here are some tips on avoiding the effects of fatigue:

- Do not take long drives unless you are fit
- Avoid leaning forward when driving; this position causes one to tire quickly
- Take regular breaks; stop and rest often
- Stop and take a nap if one feels very drowsy
- Do not drive with eyes fixed in one position
- Open the windows and get fresh air
- Change drivers often, if possible
- Never try to stretch a driving day

Any illness can cause the driver to drive in an unsafe manner. Temporary illness, such as a simple head cold or an allergic condition, may cause the eyes to water and affect vision.

Bone, joint, and muscle disorders such as a stiff neck, arthritis, or bursitis may limit a driver’s ability to move and thus reduce his driving efficiency.

Many people are subject to chronic illness. Individuals in this category should drive only with their doctor’s permission.

*Here are some rules to consider if one has any type of illness:*

- Avoid driving; if one must drive, keep the speed slow
- Choose a lightly traveled route, if possible
- If one has a sudden attack of nausea, dizziness, coughing, or sneezing, pull to a safe place and stop
- Have someone else drive or call a taxi rather than risk a crash

A temporary hearing loss can be a short term problem. This may be brought about by such illness as the common cold. If this condition occurs, you should keep the radio volume low or turn it off completely. One can also lower a window so that he hears all traffic sounds, if he is experiencing partial hearing loss.

About ninety percent of the decisions made while driving are probably based on what the driver sees. A driver must see quickly and accurately at points near and far. Seeing too late makes decisions come too late. Not seeing correctly results in wrong decisions. If the eye works correctly, the brain receives information on which it can make correct decisions. One looks with one's eyes but one sees or perceives with one's brain.

The American Optometric Association says that about twenty percent of all teenagers in the United States have some types of eye problem. Some various types of eye defects are defined below:

**Visual acuity**—The ability to see an object clearly and distinctly both near and far.

**Normal field of vision**—The ability to see objects at either side while looking straight ahead. Most people can see about 90 degrees to each side or a full half circle.

**Tunnel vision**—The lack of ability to see to the side, as described in definition above. A person with tunnel vision can only see in front of him. Here is what a person who has tunnel vision should do:

- Consult an eye specialist
- Drive at moderate speeds
- Always be alert for possible dangers
- Avoid night driving
- Move your head

**Depth perception**—The ability to judge the distance between oneself and other objects, especially when both are moving. The following should be done by a person who has trouble with depth perception:

- Stay farther back from the car ahead
- Wait for a greater clear distance ahead when starting to pass
- Use known distances such as parked cars, city blocks, and distance between telephone poles to learn to judge distances
- Be extra careful when judging distances at night

**Night visual acuity**—The ability to see clearly under conditions of low illumination.

**Glare resistance**—Being able to see in spite of night glare.

**Glare recovery**—The ability to see after being blinded by a strong light.

*Night-driving precautions for everyone:*

- Slow down at sundown
- Avoid looking directly into the headlights of oncoming cars

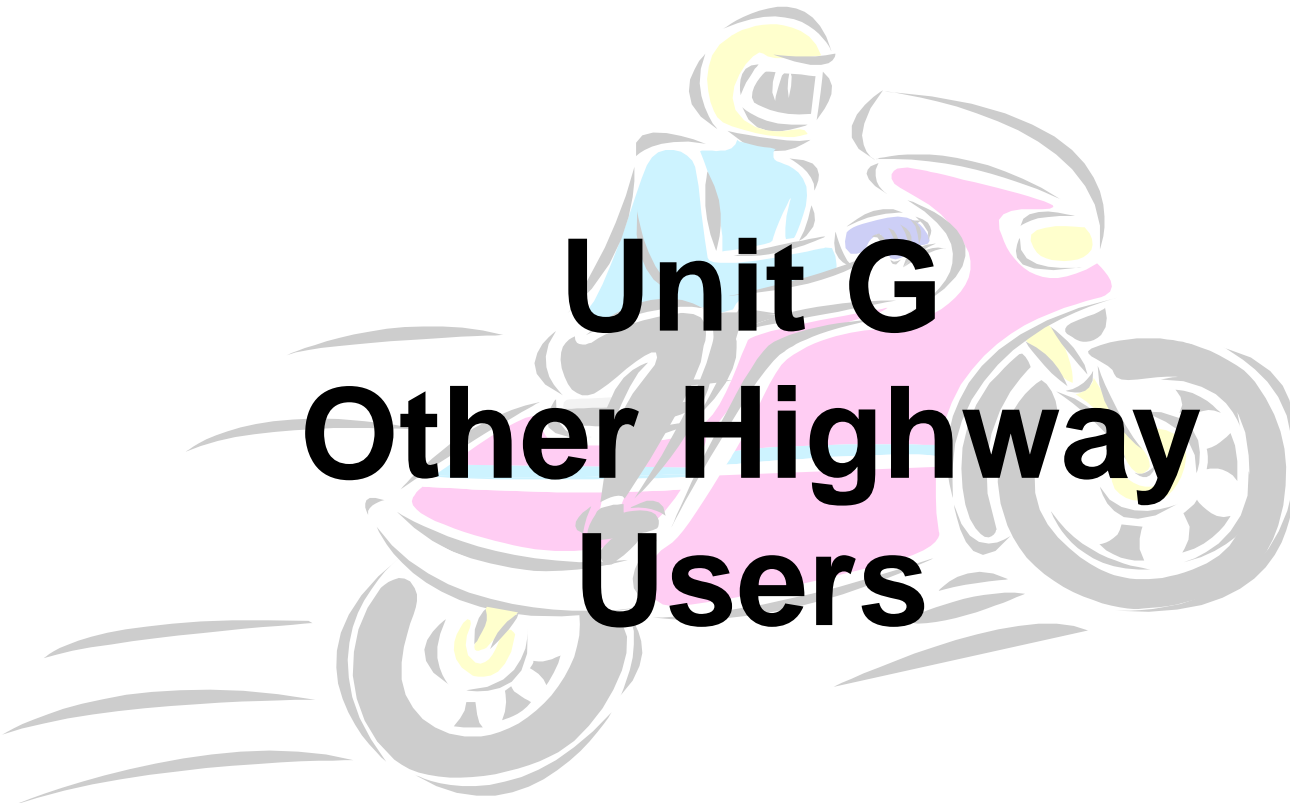
- Move the eyes
- Protect the eyes by using sun glasses in daytime, but never wear them at night
- Always keep the windshield clean
- Keep the cars' interior lights turned off

**Color blindness**—Being unable to distinguish between colors. Nearly eight percent of our population has some defect in their color vision.

*If one has trouble with colors, he should:*

- Know what the shapes of traffic signs mean
- Remember that the top traffic light is red and the bottom one is green
- Watch other drivers at traffic signals
- Read warning signs carefully
- When in doubt, signal and stop

**20/20 vision**—The ability to read letters that are about 3/8 of an inch high on the Snellen Chart at a distance of 20 feet. This is considered *normal* vision.

A stylized illustration of a person wearing a yellow helmet and a light blue jacket riding a pink motorcycle. The motorcycle is shown in profile, moving from left to right, with grey motion lines behind the wheels. The text 'Unit G Other Highway Users' is overlaid in the center of the image.

# **Unit G**

# **Other Highway**

# **Users**

# Other Highway Users

## Concept 7-1 PEDESTRIANS, MOTORCYCLISTS, AND BICYCLISTS

**Cos #53: Discuss an automobile driver's responsibilities toward other highway users.**

**COS #54: Describe safety practices that other highway users should follow.**

### Teacher Preparation

The teacher will discuss an automobile driver's responsibilities toward other highway users, including:

- Recognizing where other highway users may appear
- Recognizing the rights of other highway users
- Taking steps to reduce conflicts
- Knowing characteristics and actions of other highway users

The teacher shall describe safety practices that other highway users should follow.

### Student Learning Activities

The student will identify an automobile driver's responsibilities toward other highway users.

The student will demonstrate an understanding of the safety practices that other highway users should follow.

### Explanation

Pedestrians, motorcyclists, and bicyclists are good examples of other highway users that all drivers need to recognize. First, and perhaps most importantly, four-wheeled vehicle drivers need to understand that these highway users, in most situations, have the same rights to use the roadways and also have the same types of responsibilities as car and truck operators.

One of the most common problems that four-wheeled vehicle operators have regarding these other highway users is not "seeing" or "identifying" the presence of these individuals prior to colliding with them. Sometimes this occurs because of inattention on the car or truck drivers' part or due to an error made by the other highway user. In many cases, however, this occurs because the four-wheeled vehicle operator does not often, if ever, ride a motorcycle, or bicycle, or to a lesser degree, walk as a pedestrian in traffic situations. As a result, all car and truck drivers must educate themselves, learning what to expect from pedestrians, motorcyclists, and bicyclists. The Alabama Drivers' Manual has more information on the three groups, but the following are highlights.

### Pedestrians

Since pedestrians are very likely to receive serious injuries if struck by a motor vehicle, drivers should always be extremely cautious when around people on foot. Pedestrians can be very unpredictable, especially when they are children, and may step or run from between parked cars to cross the street. Often times, pedestrians may not obey traffic signs, lights, and other control devices in crossing. Drivers must always yield to pedestrians who are using the crosswalk, even when the driver feels that the person on foot should have waited. Be aware of children going to and from school, in residential areas, around playgrounds, and in parking lots. Older pedestrians may not be able to see or hear well, and they may not move as quickly as drivers may wish—so be patient and courteous.

Pedestrians are expected to use sidewalks where provided, but drivers should watch for joggers and those getting into or out of parked vehicles. When walking along roadways, pedestrians are supposed to walk on the left side, facing traffic. They are expected to give way to oncoming traffic, but may not always do so. Give pedestrians in these situations as much room as you safely can. When in doubt, slow down, sound your horn unless you are extremely close to the pedestrian so that they might be frightened. Making eye contact with the pedestrians may also help.

### Motorcyclists

For people who do not ride motorcycles, these vehicles and their operators may seem very unpredictable. Motorcycles should be treated the same as any other motor vehicle, and motorcyclists are expected to obey the same traffic laws that automobile operators follow.

Because they operate on two wheels, motorcycles may move around in a lane or change lanes entirely in order to avoid loose gravel, potholes, and the like. Car and truck drivers should never share the lane with a motorcycle, and should always give them plenty of room when following a motorcycle. Because of the rider's vulnerability, one of the worst things that a four-wheeled vehicle operator can do is to follow a motorcycle too closely.

Drivers should also understand that most motorcycles can accelerate more quickly from a stopped position than most cars and trucks. This is because of the motorcycles powerful engines and lighter weight. So drivers need to be extremely cautious around intersections, where many motorcycle-automobile crashes occur. Do not be deceived by the smaller size of motorcycles, and assume that they are slower than cars or trucks. Motorcyclists may ride slower because of roadway conditions, such as rain, grooves, metal or grated bridges, or construction areas where the pavement is loose or damaged.

### Bicyclists

Traffic laws apply to bicyclists who use the roadways, but these riders often either do not know or simply do not follow these rules. When the bicyclist is a child, drivers should be even more aware and cautious around them. As with motorcyclists and pedestrians, four-wheeled vehicle operators should be reminded of the vulnerability of bicyclists, and give them as much space as can be safely done.

When riding on roadways, bicyclists should ride as close to the right curb or edge of the roadway, unless passing another vehicle, preparing to turn left, or avoiding something in or on the road, such as loose gravel or pedestrians. In some cases,



bicyclists may have to dismount and become a pedestrian in order to walk across the street. When car or truck drivers wish to pass a bicyclist, they should move into a separate lane whenever possible. Bicycle drivers are required to signal for all turns, lane changes, or stops by using the same hand and arm signals as motor vehicle drivers. Motor vehicle operators, however, should not assume that bicyclists will always obey these rules.

Wet weather and loose surfaces can be especially dangerous for bicyclists. Bicyclists who ride at night have reduced visibility, even with lights, and will not be easily seen by motor vehicle operators. Drivers should be particularly alert for bicycles in these situations.

## **Concept 7-2      COMMERCIAL VEHICLES**

### **Cos #55: Discuss the dangers involved in sharing the road with commercial vehicles.**

#### **Teacher Preparation**

The teacher will discuss the dangers involved in sharing the road with commercial vehicles.

#### **Student Learning Activities**

The students will identify the dangers involved in sharing the road with commercial vehicles, including:

- Blind spots of large or overlarge vehicles
- Stopping distance of these types of vehicles

#### **Explanation**

Many drivers believe that because commercial vehicle (18 wheelers) drivers sit so high up in the cab of their vehicle, that they can see everything around them. This is wrong because there are large blind spots, in front and back of the truck and on both sides, where the driver cannot see cars. The Federal Highway Association calls these danger areas for commercial vehicles the “No-Zone.” Smaller vehicles should avoid the “No-Zone” areas since these spaces are where crashes are most likely to occur.

The Federal Highway Association offers these tips for safe driving around commercial vehicles.

##### Passing

Maintain a constant speed. Before pulling in front and resuming normal speed, be sure you can see the entire front of the vehicle in your rearview mirror. Stay well in front of the commercial vehicle after passing, as it may take that vehicle a much longer distance to stop, especially when it is fully loaded.

##### Side Blind Spots

Don't linger in Side Blind Spots. The commercial vehicle driver cannot see you. If the driver needs to change lanes quickly, the automobile driver is in trouble.

##### Tailgating

Do not tailgate. Some motorists risk driving close behind a truck to take advantage of the draft. A truck's rear blind spot is deep—the driver cannot see

your car, and you cannot see much either. If the truck has to slow down suddenly, a rear-end collision could result.

### Wide Turns

To make a right turn, big trucks must swing wide to the left before turning right. Do not cut between a truck and the curb or the shoulder on the right. If an automobile driver is approaching an intersection, as a commercial vehicle is about to turn onto the same street, the car driver should try to stop before they reach the stop sign/stop line. This will allow the truck to safely make a wide turn, without endangering the automobile.

### Backing Up

Never try to pass close behind a truck that is backing. This again puts the automobile in the commercial vehicle's "No-Zone."

## **Concept 7-3 SCHOOL BUSES**

### **COS #56: Describe safe driving habits when stopping for, following, or meeting a school bus.**

#### **Teacher Preparation**

The teacher will describe safe driving habits when stopping for, following, or meeting a school bus.

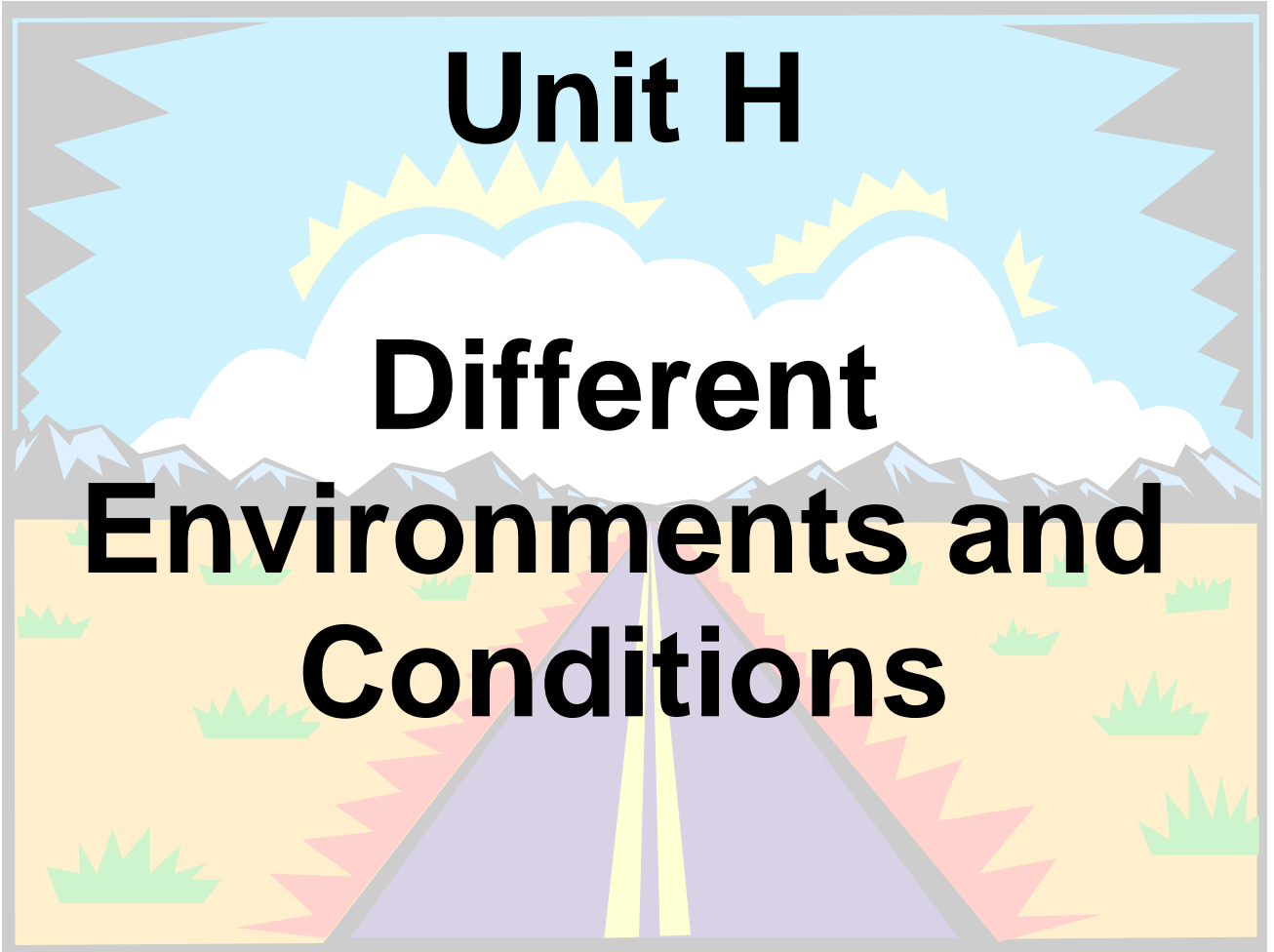
#### **Student Learning Activities**

The students will be able to describe safe driving habits when stopping for, following, or meeting a school bus.

#### **Explanation**

Any time you are driving near a school bus, you should be extremely cautious. Always give the bus additional space, especially when you are following. This would be a good example of a time when it would be wise to follow more than the minimum following distance of two seconds. A three to four second following distance would be better, and allows more time for the driver to react to the bus turning or stopping. Most buses will use flashing yellow (amber) lights prior to stopping in order to give an advance warning to other drivers. As you slow down, tap your brake pedal several times to warn other drivers following you.

State law requires you to come to a complete stop when you are following or meeting a school (or church) bus, which has stopped on the road. The bus will have the stop signal arm extended, and red lights flashing when stopped. Drivers must remain stopped until the stop signal arm is retracted and the red lights are turned off. You are required by law to stop when meeting or following a school (or church) bus, which has stopped, on a four-to-six-lane highway, even when a median or safety zone divides the opposite lanes of traffic. Many younger children may not pay good attention to what they are doing, so drivers need to be aware of children crossing the highway to get on the bus or after they leave the bus. Be particularly aware of the "Death Zone" which is the area immediately in front of and around the bus. The majority of the children injured or killed in pupil transportation are outside the bus where motorists fail to obey the lights and signs of the bus.



# Unit H

# Different Environments and Conditions

# Different Environments and Conditions of Rural Driving

## Concept 8-1 RURAL DRIVING

### COS #57: Identify driving threats that may occur on rural roads and unmarked roads.

#### Teacher Preparation

The teacher will identify the hazards that are particular to rural roadways.

#### Student Learning Activity

The students learn to cope with unique situations that arise in rural driving:

#### Explanation

Many rural roads are two-lane, two-way roadways. Curves may be sharpened and hills may be steeper than on many city streets. Roads may have concrete, asphalt, gravel, or dirt surfaces, with or without a shoulder. Some rural roads may even have drainage ditches alongside. At night, many rural roads are poorly lighted or not lighted at all.

##### Higher Speed, Fewer Controls

Good, sound judgment is more important than ever when driving in rural areas. Country roads typically have higher speed limits than city streets. Nevertheless, you will encounter fewer traffic lights and stop signs on rural roads than on city streets. At railroad crossings, there may be no signs, signals, or gates. Drivers must remain alert for traffic crossing the roadway.

##### Slow Moving Vehicles

Tractors and other farm vehicles do not travel at the same speed as cars do. As a result, drivers on rural roads often have to pass such slow-moving vehicles. Some farm vehicles such as harvesters are very wide, limiting the visibility of following drivers and making passing extremely hard and difficult.

##### Sight Obstructions

Trees, bushes, and tall crops growing close by the road all limit visibility for drivers on country roads. These obstructions can make driving even more difficult on narrow, hilly, winding or sharply curvaceous roads, many of which are common in rural areas.

##### Animals and Objects on Rural Roads

Deer, raccoons, cows, and other animals both wild and domestic, frequently cross rural roads. The dangers posed by animals on the roadway should not be taken lightly. Smashing into a 175 pound deer at 50 miles per hour, for example, will not only kill the animal, but will also wreck the car and may possibly kill the driver and passengers.

**COS #58: Explain the following distance rules in relation to rural driving.**

**Teacher Preparation**

The teacher will explain the two-second following distance rules as well as increasing following distance under certain situations.

**Student Learning Activity**

The student will understand the correct following distance as circumstances warrant in a rural driving setting.

**Explanation**

Keeping an adequate is the easier and most simple way to avoid an accident. The space in front of the vehicle is the easiest space to control. To control this space use the two- second rule for following distance. To use the two-second rule, choose a fixed object on the road ahead, such as a sign post, tree, overpass, etc. When the vehicle ahead passes that object, begin to count “one thousand one, one thousand two”. If you reach the fixed object prior to saying one thousand two, then you are following too closely. The two-second rule is for good road and weather conditions. When conditions are not ideal increase the following distance to three-four or five seconds. During periods of low light and when following larger vehicles always increase the following distance.

**Concept 8-2 URBAN DRIVING**

**COS #60: Compare accident statistics of urban and rural driving (Use Alabama Traffic Accident Facts).**

**Teacher Preparation**

The teacher will compare driving statistics for rural driving as compared to urban driving.

**Student Learning Activity**

The student will understand the dangers of driving in an urban area as compared to rural driving.

**COS #61: Describe safe-driving procedures in relation to urban streets.**

**Teacher Preparation**

The teacher will explain the hazards of urban driving and how to drive safely.

**Student Learning Activity**

The student will understand the hazards related to urban driving.

**Explanation**

Urban Streets

Cities seem to overflow with people: workers, shoppers, children, and others. Expect to encounter pedestrians anywhere and everywhere. Never assume that

pedestrians will see you or that they will obey traffic rules or signals. Expect the unexpected at all times and places.

#### Slow or Irregular Traffic Flow

Cars stopping to park or parked cars pulling away from the curb may interrupt the flow of traffic. Roadwork or construction can also slow traffic.

#### Sight Obstructions

Numerous factors tend to limit visibility in city driving. Parked and double-parked vehicles can practically block your view, as can nearby buses, trucks, and vans. Smog and pollution also may reduce your ability to see.

When driving in the city (urban):

- Scan one to two blocks ahead and from one side of the street to the other.
- Check traffic in all directions constantly.
- Keep alert to the taillights of vehicles ahead of you so that you can anticipate possible actions of others.
- Expect pedestrians walking out or coming between parked cars or crossing streets illegally.
- Be alert for the sirens and flashing lights of police cars, ambulances, fire engines, and other emergency vehicles.
- Be aware of entrances and exits for apartment buildings, parking lots, and other terminals.
- Use the SIPDE process to help you identify threatening conditions early.
- Dense traffic can make drivers tense and impatient. Always be ready to stop or steer to avoid a collision.
- To give drivers and pedestrians maximum time to see and react to you, drive with your low-beam headlights on and always signal your intentions well in advance.
- Give yourself extra time for driving in city traffic, particularly driving in rush hours and other busy periods.

### **COS #62: Discuss the importance of proper lane placement**

#### **Teacher Preparation**

The teacher will explain how important it is to maintain the correct lane position when driving in the city

#### **Student Learning Activity**

The student will understand the importance of proper lane placement in an urban setting.

#### **Explanation**

When driving in a urban area:

- Keep as wide a margin of space as possible between your car and parked cars.
- Avoid driving side-by-side with other cars on multiple-lane streets.
- Keep as much space as you can between your car and vehicles in the on-coming lanes.
- Before you enter an intersection, make sure there are no cars or people blocking your intended path of travel.

**COS #64: Explain the importance of establishing a safe following distance in urban traffic.**

**Teacher Preparation**

The teacher will explain how important it is to have a proper following distance in an urban driving environment

**Student Learning Activity**

The student will understand the proper following distance for city driving

**Explanation**

When driving in the city use these guidelines to prevent collisions:

- Do not follow other vehicles closer than two-seconds
- Stop well behind another vehicle, further enough back to see their back tires on the road—this will give one room to maneuver in an emergency situation.
- Keep a wide margin from parked vehicles, watch for brake lights, back-up lights, exhaust, etc that may indicate a car is pulling out.
- Avoid driving in another drivers blind spot.
- Keep as much space as possible between your vehicle and oncoming traffic.
- Using SIPDE, watch for brake lights of cars well ahead of your path of travel.
- Utilize “covering the brake” for a threatening situation.

**Concept 8-3 LIMITED AND CONTROLLED ACCESS HIGHWAYS**

**COS #65: List reasons why limited and controlled access highways have lower collision and fatality rates.**

**Teacher Preparation**

The teacher will list for the students the reasons that limited and controlled access highways are safer than other types of roadways.

**Student Learning Activity**

The student will understand why driving on limited and controlled access highways is preferable over rural roadways.

**Explanation**

Driving on limited or controlled access highways permit you to drive long distances without interruption, with minimum fatigue and maximum safety. There are no stops and no cross traffic and knowing how to effectively use these types of roadways will allow you to get to your destination quicker and safer.

**Limited or Controlled Access Highways**

Limited or controlled access highways allow vehicles to enter and exit only at specific places. They include freeways, interstates, parkways, turnpikes, expressways, and other multiple-lane highways.

**Limited Entrances and Exits**

Entrance and exit ramps on controlled access highways may be many miles apart. Entrances and exits are usually made from the extreme right hand lane.

However, there are many entrance and exit ramps located in the extreme left-hand lane.

Signs posted along the highway tell drivers when they are approaching an exit or interchange. Interchanges are points where they can enter or leave the expressway or connect with a highway going in another direction.

## **Concept 8-12 EMERGENCY SITUATIONS**

### **COS #68: Describe correct procedures to follow when confronted with road emergencies.**

#### **Teacher Preparation**

The teacher will explain the correct procedures to follow when emergencies occur on the roadways.

#### **Student Learning Activity**

The student will be familiar with the proper procedures to follow when emergencies arise on the roadway.

#### **Explanation**

It is very important not to panic but act promptly in an emergency situation. Emergency situations not only dangerous to the driver but to all roadway users in the immediate area. Emergencies may cause other drivers to “honk” impatiently, but the “honking” should not push the driver into rash action. Keeping your vehicle well maintained may prevent many mechanical emergencies from occurring. If an emergency does occur it is important to know the correct action and reaction.

#### **Tire Failure**

A blowout and a flat tire are similar but not the same. A **blowout** is an explosion in a tire while the vehicle is in motion. The tire suddenly loses air pressure, and the vehicle may become difficult to control.

A tire can also lose pressure gradually, through a slow leak. If you don't detect the leak in time, the tire is likely to go flat. A tire can go flat either while the vehicle is parked or when it is moving.

#### **If Your Tire Suddenly Loses Pressure**

When a tire fails while you are driving, you may feel a strong pull to the right or left. The rear of your vehicle may shimmy or swerve back and forth. You may even hear a thumping sound. The effect may be gradual if the tire has a slow leak or sudden if the tire blows out.

#### **If the tire loses pressure, take these steps:**

- Keep a firm grip on the steering wheel with both hands. Look well ahead along your intended path. Maintain or slightly increase pressure on the accelerator until your steering is stable.
- Release the accelerator slowly. Do not brake—you could make the vehicle swerve out of control.
- Check the traffic around you. When you find a gap, signal and steer off the road. You'll have to change the tire, so move as far off the main roadway as you can. As the vehicle slows, brake gradually and come to a stop on a flat surface.



- Shift to Park (reverse in a manual-shift vehicle), set the parking brake, and put on your emergency flashers.
- Get out of the vehicle, and have passengers get out too, on the side away from traffic.

### Accelerator Pedal Sticks

As you're driving along, you decide to decrease speed. You lift your foot from the accelerator pedal but nothing changes; the vehicle keeps moving at the same speed. The problem is a stuck accelerator; the engine does not return to idle when you take your foot off the pedal.

A stuck accelerator pedal may be caused by a sticking linkage or accelerator spring, a broken engine mount, a crumpled floor mat, or ice or snow on the floor around the pedal.

### Here's what to do.

- Apply the brakes, and shift to Neutral. The engine will race, but power will be disengaged from the wheels.
- Check traffic, and signal a lane change.
- Choose a safe path, and steer off the road, continuing to apply the brakes.
- When you are off the roadway, shift to Park, turn off the ignition, and apply the parking brake.
- Do not attempt to unstick the pedal until after you've steered off the road and come to a stop. Test the pedal before reentering traffic. If the pedal problem is mechanical, have it repaired before driving again.

### Headlights Fail

Headlight failure at night is dangerous because without lights, your ability to see is reduced, as is the ability of other drivers to see your vehicle.

Rarely do both headlights fail at the same time. However, if one headlight goes out, you may not notice it until the other also goes out. Headlight failure is usually the result of a burned-out low-beam headlamp.

If you're driving at night and suddenly your lights flicker or die, you have to get off the road, but without making any sudden, possibly dangerous moves.

### Here's what to do.

- Slow down and continue in the same direction you were going. Be aware of the traffic around you.
- Try switching to high beams. Headlights seldom burn out on both high and low beams at the same time. If switching to high beams gives no light, try turning on parking lights, turn indicators, and the emergency flashers. These can give you enough light to help you get off the road.
- When you see a gap in traffic, steer off the roadway. If you have no lights at all, look for the side-lane markers on the pavement. You can also use available light from other vehicles on the roadway.
- If possible, stop your vehicle off the roadway near a lighted place, such as a lighted sign, building, or streetlight. Call for help.

### Vehicle Catches Fire

Vehicle fires don't occur often, but when they do, prompt action minimizes risk to people and property.

Engine fires are usually fuel-fed or electrical. You'll see and smell smoke coming from under your hood. Follow these steps.

- Steer off the road to an open space. Turn off the ignition.
- Get out of the vehicle, and have all passengers get out too. Move far away from the vehicle. Call for help.
- Decide how serious the fire is. If it is serious—high heat and flames around the hood—do not attempt to put the fire out yourself. Wait for the fire department.
- If the fire is not serious and you have a fire extinguisher, you can try to put it out yourself. *Do not use water*; it is not effective against fuel, electrical, and oil fires. Wear gloves, or wrap your hands in cloth. Face away from the vehicle, and crouch down so that your head is at the level of the hood. Do not open the hood. Just pull the hood release to create a small space into which you can spray the extinguishing agent.

### If There is A Fire in the Passenger Compartment

A fire in the passenger compartment is usually caused by carelessness of a passenger or the driver. A common cause of such fires is a burning cigarette or match that drops to the floor or gets blown into the backseat.

If there's a fire in the passenger compartment, steer off the road and stop clear of traffic. Turn off the ignition. Get out of the vehicle, and have all passengers get out. Use a fire extinguisher or water to put out the fire.

### Brake Failure

When brake failure occurs, the foot brake may have no resistance. The brake pedal may sink to the floor and the brake warning light may come on.

### Here is what to do.

- Rapidly pump the brake pedal. Doing so may build up pressure in the brake-fluid lines, providing some braking force. After a few pumps you'll know whether or not you've restored braking power. If power is restored, stop pumping.
- Shift down to a lower gear to slow the movement of the vehicle.
- If pumping the brakes does not work, use the parking brake. Either keep your thumb on the release button or hold the brake handle so that you can alternately apply and release brake pressure. Applying the parking brake too abruptly may lock the rear wheels—usually the only ones the parking brake affects—and send the vehicle into a spin. Use an apply-release-apply-release pattern with the parking brake to slow down the vehicle.
- If you still have little or no brake control, look for a place to steer against the curb if there is one. Scraping the tires against a curb can help reduce speed.

- Other ways to slow the vehicle after you've applied the parking brake and downshifted include steering into an open area, such as a parking lot and shifting into lower gears as quickly as possible; steering onto an uphill road; and turning the ignition to the off position, *not* the lock position, which would lock the steering wheel. After you have brought the vehicle to a stop, put the gear selection in Park to keep the vehicle where it is.
- If you cannot avoid a collision, steer so that you sideswipe an object rather than hit it head-on. If possible, steer your vehicle into bushes or scrape along a guardrail or even parked vehicles rather than move toward pedestrians or occupied vehicles.

**Note:** if your vehicle has power brakes, engine failure may cause brake malfunction. If that is the case, your brakes will still work, but you'll have to press harder on the pedal.

#### Other Brake Problems

If you apply your brakes hard for a long time, such as when traveling down a long mountain slope, you could overheat them and cause "brake fade," a kind of temporary brake failure. To help prevent this, shift to a lower gear before starting down the slope. You can also pull off the road to let your brakes cool.

Drive more slowly through puddles. Driving at normal speeds through deep puddles or on flooded roadways can make your brakes wet and lead to temporary brake failure as well as cause hydroplaning. To dry your brakes, drive slowly with your left foot gently on the brake pedal. The friction will produce heat that will dry the brakes.

#### Engine Failure

If your vehicle's engine stalls (stops suddenly) while you are driving, check traffic around you and determine the best point at which to leave the roadway. Signal, and then steer off the road or to the curb as quickly as possible while you still have momentum. Keep in mind that if your engine stalls and you have power brakes and power steering, the brakes and steering will still work, but they will be much harder to operate. If your vehicle has power brakes, do not pump the brake pedal. Use firm, steady pressure instead. When you are off the road, shift to Neutral, and try to restart the engine. If the engine starts, shift into Drive and continue driving. If you're driving a vehicle with a manual transmission, shift into First gear and continue moving forward.

If the engine won't start, make sure your flashers are on, and raise the hood. Place flares or warning triangles 100 feet in front of your vehicle and at least 100 feet behind it. Signal or wait for help.

#### If You Flood the Engine

If you pump the accelerator more than once when trying to start your vehicle, too much gas and not enough air may be supplied to the engine. The result is a flooded engine that won't start. When your engine is flooded, you can often smell gas. In vehicles with fuel injection, there is no need to pump the accelerator before starting; in fact, a flooded engine may result.

To start a flooded engine, press the accelerator pedal all the way to the floor and hold it there. At the same time, turn on the ignition switch, and hold it on for 5 to

10 seconds. If the vehicle starts, slowly release the accelerator. If the vehicle doesn't start, wait about 10 minutes and try again.

### *If the Engine Overheats*

Your engine may overheat for any of various reasons: driving in slow-moving traffic during hot weather, with the air conditioner running; driving up long, steep hills; a loose or broken fan belt; a broken water pump or hose; not enough coolant or antifreeze in the cooling system; a stuck or broken thermostat; or a clogged radiator.

When engine temperature is too high, the temperature gauge or warning light on your instrument panel indicates that the engine is overheating. You may also see steam or smoke rising from under the hood.

### *If you engine overheats, follow these steps.*

- Turn off all accessories, especially the air conditioner.
- If the temperature gauge continues to show hot or the warning light stays on, signal and pull off the road. Raise the hood, let the engine cool, and get professional help. If you can't pull off the road immediately, turn on the heater to draw heat from the engine. Doing so will not solve the problem, but it will help temporarily until you can get off the road safely.
- If there is no steam or smoke coming from the engine, carefully open the hood (wear gloves to protect your hands). Look for such problems as a broken hose or belt. Note whether the radiator overflow tank is empty, but do not touch the radiator.
- When the engine has cooled completely, check the fluid level in the radiator overflow tank again. If the fluid level is low, you need to add coolant. Many overflow tanks have a fill line to help you determine the proper level of fluid. Start the engine, and let it run at idle speed as you add the coolant.

### *Power Steering Failure*

Power-steering failure can occur if your engine stalls or the power-assist mechanism fails. When power steering fails, your steering wheel suddenly becomes very difficult to turn.

If your vehicle's power steering fails, grip the steering wheel firmly and turn it with more force. Check surrounding traffic, signal, and when it's safe to do so, steer off the road and stop. As soon as you possibly can, have a mechanic check your steering system.

### *Total Steering Failure*

Sudden and total steering failure is a rare occurrence. However, if a breakdown in either the steering or suspension system does happen, your ability to control your vehicle will be drastically reduced.

In case of total steering failure, bring your vehicle to a stop as quickly and safely as possible, using the parking brake, not the foot brake. If you step on the foot brake it might cause your vehicle to pull sharply to one side. Just as when responding to brake failure, keep hold of the parking brake release button or handle to avoid locking the rear wheels and going into a spin. Downshift.

### Running Off the Pavement

If your wheels drift onto the shoulder of the road, don't try to swerve back onto the pavement because you might throw your car off balance. Instead, stay on the shoulder and ease up on the gas. After you've slowed down, turn gently back onto the pavement.

### Immersion

If your car plunges into deep water BUT DOES NOT SINK, immediately escape through a window. Opening a door, even if possible will permit the water to enter the car even more rapidly. If the car SINKS beneath the surface before you can escape, the weight of the engine will force the front end down first. This usually creates an air pocket in the back of the car. Get into the air area and breath deeply, when the car has settled you should be able to escape through a window.

### Windshield Wiper Failure

If your wipers suddenly fail in blinding rain or snow, slow down, roll down your side window, and put your head out so that you can see ahead. Then move your car off the highway.

### Emergency Swerve/Objects in Roadway

First check traffic, and then decide whether to steer around, brake, straddle, or drive over the object. Choose to straddle the object only if your vehicle can clear it and you cannot safely steer around it. Avoid swerving left across the center line because you could encounter other traffic. *Drive over an object only as a last resort.*

### Loss of forward vision

If the hood flies up, remove your foot from the accelerator and look under the gap between the hood and vehicle. Signal and pull over to a safe area as quickly as you can safely do so.

### Stalled vehicle on railroad tracks

If your car stalls on railroad tracks and it has a manual transmission, you may be able to move it off the tracks by running the starter while the car is in low or second gear. If you have an automatic transmission you will have to push the car off the tracks. If you cannot get the car off the tracks, and a train is approaching, abandon the vehicle, and quickly move alongside the racks in the direction of the approaching train so that you will not be struck by debris when the vehicle is hit.

## **COS #69: Explain how to avoid or minimize collisions.**

### **Teacher Preparation**

The teacher will explain how to avoid or minimize the risk of a collision.

### **Student Learning Activity**

The student will understand ways to avoid or minimize the risk of a head-on, T-bone or rear-end collision.

## Explanation

### *You Can Minimize the Risk and Consequences of a Collision*

It is not always possible to avoid a collision. Knowing what to do before a collision happens will help minimize its effects. You should understand the factors that contribute to the force of impact of a collision.

### *Force of Impact*

The force with which a moving vehicle hits another object is called the force of impact. Three factors affect the force of impact.

**Speed of the vehicle**—The force of impact at 20 mph is four times that at 10 mph. And the force of impact at 30 mph is nine times that at 10 mph.

**Weight of the vehicle**—The heavier a vehicle is, the harder it will hit any other object.

**Impact distance**—The force of impact also depends on the distance a moving vehicle travels between first impact with an object and the point where the vehicle comes to a full stop. When a vehicle hits an unmoving solid object, the impact distance is short. The object does not “cave in” at impact, and so kinetic energy is spent immediately on impact. The shorter the impact distance, the greater the damage.

### *Reducing the Force of Impact*

These energy-absorbing features help increase impact distance.

**Sand canisters**—You often see canisters filled with sand in front of concrete barriers on highways. If a vehicle hits these canisters, they break apart. The sand helps reduce the vehicle’s force of impact.

**Vehicle features**—New vehicles include a number of features that help increase impact distance by absorbing energy. These features include air bags; crumple zones; automatic safety belts; head restraints; and padded dashboards.

**Head-on**—A head-on collision with a vehicle or an immovable object, such as a large tree, is the worst type of collision. If you can reduce speed, the force of impact will be less. Driving into something that is movable, such as a bush or a snow bank, will also reduce the force of the impact.

**Side**—Suppose you are about to be broadsided in an intersection and cannot avoid it. How can you minimize the damage? You can accelerate to make impact behind the passenger compartment or with the rear end of your vehicle. This will help minimize damage or injury because impact will occur behind the passengers.

### *Avoiding a Collision*

Braking is a natural reaction to avoid a collision. However, it is not always the correct evasive action.

### *Accelerating*

Accelerating may sometimes be your only means of reducing risk. Such situations occur most often at intersections or in merging traffic. A vehicle may be coming at you from one side. Braking may leave you in the vehicle’s path. Steering to the side may be impossible if there are objects on both sides of you.

If the road ahead is clear, a quick burst of speed may take you to safety, or at least move the crash farther back on the vehicle.

### Steering

Steering to avoid a collision may be the quickest method. Always have an escape route available allowing you to steer quickly to the right or to the left. If you are traveling more than 30 mph you can generally react more quickly by turning the steering wheel than by applying the brakes and trying to stop in time.

### Braking

Steering to the side or accelerating may not be possible. Under 25 mph, it takes less time and distance to stop than to steer into another lane. When braking, you want to stop fast without making the wheels lock, or stop turning. Locking of the wheels reduces traction and will cause loss of steering control. To brake quickly, use the threshold/squeeze method. Use your body to sense how the brakes are working. Keep your heel on the floor and your foot on the brake. "Squeeze" the pedal down with a steady, firm pressure until just before the brakes lock. If they lock, ease up about 2 or 3 degrees. Immediately squeeze down again, but not as firmly. Continue until you reach your desired speed. This type of braking allows you to maintain steering control. An **antilock brake system (ABS)** eliminates the problem of locked brakes. Sensors detect when a wheel stops turning. Pressure on the wheel's brakes is reduced until the wheel starts turning again. This action is independent of the pressure the driver applies to the brake pedal. Antilock brakes permit maximum brake pressure while retaining steering control. Do *not* pump these brakes.

## **Concept 8-5      ADVERSE CONDITIONS**

### **COS #70 Explain the importance of Alabama's basic speed law during adverse conditions.**

#### **Teacher Preparation**

Teacher will discuss the dangers of driving in rainy weather and the importance of speed reduction during inclement weather.

#### **Student Learning Activity**

The student will understand the importance of slower speeds in rain and inclement weather.

#### **Explanation**

Alabama's basic speed law provides that you must never drive a vehicle at a speed that is faster than reasonable under existing conditions.

A safe speed at any particular time is determined by the type and condition of the road and by such factors as the traffic, weather, and light. Your ability to manage visibility, time, and space also determines what is a safe speed at any given time.

By law, drivers must go more slowly than the minimum posted speed if poor road or traffic conditions make that speed unsafe. In such cases, the arresting officer must show that the driver was going too fast for the weather, road, or traffic conditions at that time.

Driving faster than the posted speed limit is never safe or reasonable and is always illegal.

Take note of these facts about speed.

The higher the speed:

- The less time the driver has to spot dangerous situations and take action.
- The greater the time and distance it takes to stop a vehicle.
- The greater the chance the vehicle will skid or roll over on a turn.
- The greater the force of impact will be in a collision.
- The greater the personal injuries and property damage will be in a collision.

Drivers can also be arrested for driving too slowly. In these cases, the officer must show that the speed was so slow that it caused danger to other drivers going at a reasonable speed.

All states post speed limits on their roadways. These speed limit signs reflect the *maximum* speed at which you can drive under the best of conditions. For example, you would not drive at the maximum allowable speed in the middle of a snowstorm, but you might do so on a clear day.

Posted speed limits do not tell you at what speed to drive. They only say you cannot safely go faster or, in special cases, more slowly than the speed shown.

**COS #71: Explain how laws of nature affect vehicle control during adverse driving conditions**

**Teacher Preparation**

The teacher will explain how natural laws are affected by adverse weather conditions.

**Student Learning Activity**

The student will understand the effects of nature on driving control during periods of adverse weather conditions.

**Explanation**

Students should recognize that natural laws work in combination with one another. For example, when driving a vehicle down a hill in the rain, the driver must contend with both reduced friction and the pull of gravity. If the driver allows the vehicle's speed to increase as the vehicle moves downhill, the vehicle's increased momentum and kinetic energy cause the braking distance to increase.

The majority of natural laws are explained in COS #39. The following are driving procedures that are adversely affected by poor weather conditions.

Reduced Traction

A loss of traction or a reduction in traction can be frightening and dangerous even for experienced drivers. When traction is reduced because of a change in conditions, your tires can lose their grip on the road's surface and the vehicle can begin to slide. Drivers should always be aware of conditions that could result in reduced traction.

Changing Speed Too Quickly

You are on a slippery road, and you want to slow down. You step firmly on the brake pedal, and your vehicle starts to skid. What happened? You tried to



change speed too quickly. Traction could not overcome the vehicle's kinetic energy and momentum as fast as you wanted it to.

### Changing Direction Too Quickly

Turning a vehicle quickly is like a large football player trying to make a sharp turn at a full gallop. Sometimes it works, but sometimes it doesn't. If you're driving at a high speed, your vehicle has a tremendous amount of momentum and kinetic energy. Inertia is also at work, trying to force your vehicle to move in a straight path. Tire traction may not be great enough to compensate for momentum, kinetic energy, and inertia when you turn or enter a sharp curve.

How fast is a high speed? It depends on the road. Look at the speed limit signs posted just below the warning signs as you near a curve. They tell you the maximum safe speed you should use to enter the curve. Then you need to adjust speed downward according to conditions.

## **COS #72: Explain ways to correct reduced visibility.**

### **Teacher Preparation**

The teacher will explain methods to minimize risks during periods of reduced visibility.

### **Student Learning Activity**

The student will demonstrate correct driving procedures to minimize risks during reduced visibility driving situations.

### **Explanation**

#### Bright Sunlight

Sunlight increases visibility, but the glare caused when the sun hits your windshield can act in the opposite way—it can reduce your ability to see. The sun's glare is most dangerous in the morning or late afternoon, when the sun is low on the horizon. Glare can also reduce your ability to see the brake lights of other vehicles, especially if you're driving toward the sun and its rays shine directly in your eyes.

Have sunglasses handy. As soon as you begin to squint, slip them on to shield your eyes. Reduce speed, increase your following distance, and adjust your sun visor to block out the sun. However, be careful that the visor does not hinder your view of overhead signs and signals.

Use the SIPDE process to help you manage risk in glare situations. Give yourself an extra margin of safety by leaving more distance between your vehicle and other vehicles. Check carefully for pedestrians—remember, they are having trouble seeing too. Even if you have your sunglasses on and can see road signs and signals, keep in mind that others on the roadway may not be able to see as clearly. Always be alert for the sudden, careless, or unsafe actions of other drivers and pedestrians.

Keep in mind that if you are having trouble seeing, so are the drivers around you. The sun shining on the back of your vehicle may make it very difficult for the driver behind you to see your brake lights or directional signals. For this reason, it's wise to tap the brake pedal to flash your taillights, to use your turn signals well in advance, *and* to use hand or arm signals as well to communicate your intentions.

Keep in mind, too, that when the sun is behind you, oncoming drivers have the sun's glare in *their* eyes and may have trouble seeing you. Drive with your low-beam headlights on to make your vehicle more visible, and signal well in advance your intention to turn or change lanes.

### Dusk and Dawn

Alabama law requires headlights on from a half hour after sunset to a half hour before sunrise and during periods of reduced visibility when you cannot see clearly for 500 feet. Using your headlights makes it easier to see and be seen in the dim light of dusk and dawn. Do *not* use your parking lights. They are not designed to light the road ahead but to indicate your position when you are parked safely off the roadway.

At dawn or dusk, increase the distance between your vehicle and the one ahead, and use your turn signals well in advance.

### At Night

Night driving requires extra concentration and a greater level of awareness. With darkness limiting visibility, it is wise to drive more slowly at night than you do during the day and to leave more distance between your vehicle and the vehicle ahead.

Use low beams and high beams correctly. On very dark roads with no other vehicles around, use your high beams to increase visibility. Be sure to switch back to low beams as soon as you spot the headlights or taillights of a vehicle ahead of you. The glare of your high beams can momentarily blind another driver. State law requires you to depress (dim) your headlights when within 500 feet of an oncoming vehicle and within 200 feet when following another vehicle.

Do not overdrive your headlights. At night, drive at a speed that will allow you to stop within the range of your lights—that is, within the distance you can see. Driving faster than that is called **overdriving your headlights** and makes you vulnerable to unseen hazards.

Use the 3 or 4-second rules you have learned to help you judge a safe following distance.

Look beyond your headlights. Get into the habit of looking for objects just beyond your headlight beams to see possible threatening conditions. Looking beyond your headlights is essential when making turns or rounding curves.

### Minimize Risk in Rain and Snow

Rain and snow decrease your ability to see ahead, to the sides, and to the rear. Decreased visibility, in turn, makes it more difficult than usual for you to judge distances and to manage time and space well. Bad weather conditions also make it much harder for other drivers and pedestrians to see your vehicle.

Heavy rain or snow can limit your view so much that you can't see very far ahead or even the edges of the roadway. Snow and sleet collecting on your windshield can produce blind areas that your windshield wipers can't reach. Snowy or rainy weather can also make the roadway slick, reducing the ability of your tires to grip the road and increasing your risk of collision.

### Fog or Smog

Dense fog poses hazards. Scattered patches of fog may suddenly occur, cutting your field of vision without warning. If humidity is too high, moisture can form on

both inside and outside the windshield, further reducing visibility. Turn on the windshield wipers and defogger as necessary.

Low-beam headlights are essential when driving in fog. You may also want to switch on your emergency flashers to further increase the ability of other highway users to see you. Resist the temptation to put on your high beams. The small droplets of water in fog reflect light back into your eyes, making visibility worse with high beams than with low beams.

To better manage time and space when driving in fog, reduce speed, increase your following distance, and remain alert for sudden movements.

If fog is very dense, the wisest thing to do is to signal, pull off the road, and wait for conditions to improve. Do *not* stop on the road. Stop outside a guardrail if possible, and turn off all lights.

In some areas, industrial smoke and other kinds of air pollution create smog that decreases drivers' visibility as much as does fog. Methods described for driving in fog are equally useful for smog conditions.

### *Sand and Dust*

In some parts of the country, sand and dust cause serious visibility problems. In desert areas, for example, these storms can cause a severe decrease in visibility that greatly increases the risk of a collision.

### *Wind*

Depending on the size and weight of the vehicle you're driving, high winds can be a nuisance—or dangerous. Wind can buffet vehicles traveling on a highway like boats tossed in stormy seas. A strong enough gust of wind can actually push a lightweight vehicle right out of its lane!

Under windy conditions, reduce speed and grip the steering wheel firmly to maintain control of your vehicle. Leave extra space between your vehicle and nearby vehicles, especially those that are likely to be affected by the wind, such as vans, recreational vehicles, and vehicles pulling trailers.

Nature is not the only source of wind. When a bus, truck, or tractor-trailer speeds by you—in either direction—you'll feel a powerful blast as it passes. Always allow as much distance as possible to the side between your vehicle and a passing large vehicle and hold the steering wheel firmly to minimize risk.

### To minimize risks during adverse conditions:

**Prepare in advance.** Start by cleaning your vehicle's windows and lights. Check the tread and pressure of your tires. Check the headlights, windshield wipers, defroster, and other equipment to make sure they are in good working condition.

**Allow an extra margin of safety.** Drive more slowly and leave extra space between your vehicle and other vehicles.

**On a wet pavement, drive in the tracks of the vehicle ahead of you.** Those tracks are drier than the surrounding surface and offer better traction.

**Give other drivers plenty of advance notice.** When you intend to slow down or turn, communicate your intentions early so that other drivers have time to react accordingly.

**Be alert.** Be on the watch for pedestrians dashing for shelter, or with umbrellas restricting their view of traffic.

**Keep your low-beam headlights on.** Increase the distance you can see, and make your car more visible to other drivers and pedestrians.

**Ease your way into turns and curves.** Avoid sudden acceleration, starts, or stops.

If rain becomes so heavy that even your windshield wipers' highest speed cannot keep up with the downpour, signal, then pull well off the road in a protected area and wait for the storm to lessen in intensity. Remember to switch on your emergency flashers so that other drivers can see your vehicle.

You may also need to pull over if, in snow or sleet, your windshield wipers become crusted with ice or if accumulating snow or sleet creates blind areas on your windshield. Use a scraper and brush to remove all of the buildup, and run your defroster before you resume driving.

**COS #73: Discuss the proper technique for skid control.**

### **Teacher Preparation**

The teacher will explain how to control the vehicle during a skid.

### **Student Learning Activity**

The student will tell how to minimize the risk of a skid and how you should respond to each type of skid.

### **Explanation**

#### *Natural Laws to Manage Skids*

Understanding the natural laws that affect the control of your vehicle can help you regain that control when you lose it through skidding. When you **skid**, you lose control of the direction and speed of your vehicle's movement because of reduced traction. If you skid, you are not helpless. Once you understand what causes a skid, you're already on your way to dealing with one.

### Kinds of Skids

Type	Braking skid	Power skid	Cornering skid	Blowout skid
Reason	The brakes are applied so hard that one or more wheels lock.	The gas pedal is pressed suddenly and too hard.	The tires lose traction in a turn.	A tire suddenly loses air pressure.
Conditions	A sudden stop.  A wet, slippery, or uneven road.	A sudden, hard acceleration.  A slippery road surface.	A turn made too fast.  Poor tires or a slippery road surface.	A punctured, worn, or over inflated tire.  An overloaded vehicle.
What can happen	Steering control is lost.  If the front wheels lock, the vehicle skids straight ahead.  If only the rear wheels lock, the rear of the vehicle slides sideways.  The vehicle may spin around.	A vehicle with front-wheel drive plows straight ahead.  In a vehicle with rear-wheel drive, the back end can skid to the side. The vehicle may spin around.	Steering control is lost.  The rear wheels skid away from the turn.  The vehicle keeps going straight ahead.	There is a strong pull toward the side on which a front tire has blown out.  A rear-tire blowout may cause a pull toward the blowout, side-to-side swaying, or fishtailing.
What to do	Take your foot off the brake pedal.  Steer.  When the wheels start turning again and moving forward, steering control will return.	Ease up on the gas pedal until the wheels stop spinning.  Steer to straighten the vehicle.  Counter steer if the vehicle starts to spin.	Take your foot all the way off the accelerator.  Steer to straighten the vehicle.	Do not brake.  Make firm, steady steering corrections.  Do not change speed suddenly.  Slow down gradually, and drive off the road.

## Concept 8 – 6 RAILROAD GRADE CROSSINGS

### COS #74: Discuss the proper driving technique for approaching various railroad grade crossings.

#### Teacher Preparation

The teacher will explain how to drive safely through railroad crossing and what to do if your vehicle stalls on the tracks.

#### Student Learning Activity

The student will understand how to safely proceed at a railroad grade crossings.

#### Explanation

##### Railroad Advance Warning Signs

Be especially careful when you come to a railroad advance warning sign. Slow down before you reach the tracks, and be prepared to stop. Look in both directions to see if a train is approaching.

Slow down as you approach a railroad crossing. Look for warning lights or signals or lowered crossing gates.

Stop no closer than 15 feet from a railroad crossing if a train is approaching.

*Never* attempt to cross a track if warning lights are flashing.

Even if warning lights are not flashing, look both ways and listen to make sure no train is coming before you cross a track. Never rely solely on mechanical warning equipment—it could be broken.

If there are no lights or crossing gates present at a railroad crossing, proceed with extra caution. If there is any question about safety, stop, look, and listen for approaching trains before moving ahead.

After a train has passed, check in both directions to see that no other trains are coming, especially before you start across multiple sets of tracks.

Always wait for the vehicle ahead of you to clear the tracks before you start across. Never stop on the railroad tracks.

##### If Your Vehicle Stalls

**Never stop your vehicle on railroad tracks for any reason whatsoever.** In the rare event that your vehicle stalls on the tracks, don't panic.

Immediately check in both directions for approaching trains. If a train is coming, leave your vehicle at once, walk in the direction the train is coming from, but move away from the tracks. If no train is approaching and you have a clear view of the tracks in both directions, try to restart your engine. Continue to check for trains.

If you can't start your vehicle and you're sure no trains are coming, try to push your vehicle off—and well away from—the tracks.



# Boating Safety

## NOTE:

Boating Safety was made a MANDATORY component of the Driver Education curriculum in April of 1994. Teachers preparing themselves for this topic will find Alabama Boating Basics to be invaluable. These instruction books are available through the Driver Education Department of the Alabama State Department of Education.

## Concept 9-1 ALABAMA'S BOATING LAW

### COS #75: Understand Alabama's Boating Safety Act.

#### Teacher Preparation

The teacher will explain the components of Alabama's Boating Safety Act including Boating of the Influence (BUI), Felony homicide, Driver education requirements, license requirements and boat registration.

#### Student Learning Activities

The student will understand the educational component of Alabama Boating Law and know basic boat operations.

Students will be able to list the laws that apply to young boaters; these include B.U.I., registration, and their boating licenses requirements.

#### Explanation

The Roberson/Archer Act is another name for the Boating Safety Act of 1994. Because of its length and complexity all of Alabama's Boating Safety Law will not be listed here. However, there are several points of that law that should be covered.

*These include, but are not limited to the following:*

- Persons over forty years of age on April 28, 1994 are exempt from the educational component of the Alabama Boater Safety Act.
- Certification is not required for non-motorized vessels.
- All boaters of motorized vessels must be at least fourteen years of age (amended in 2001) and have passed an approved course in boater safety.
- Operating a vessel under the influence of alcohol is prohibited.
- Boating Rules-of-the-Road must be followed for safe vessel operation.
- Boating under the Influence (BUI) laws are exactly like the DUI laws on the roadways. A boater can be convicted of BUI if their BAC is at .08% or above. The "zero tolerance" law for underage drinkers is applicable on the waterways as well.

### COS #76: Boating Terminology

#### Teacher Preparation

Using the Glossary of Alabama Boating Basics, the teacher will teach boating terms the students will need in order to successfully pass the educational component of Boating Safety.



## Student Learning Activities

Students will learn the following terms as they relate to boating safety.

### Explanation

*These are the terms that should be included in the Boating Safety unit:*

**Abeam** – Amidships, at a right angle to the keel.

**Aft** – Describing the after section of a vessel, or things to the rear of amidships and near the stern.

**Aground** – Touching bottom.

**Amidships** – Describing the mid section of a vessel.

**Anchor** – A forging or casting shaped to grip the sea bottom and, by means of a cable or rope, to hold a boat in a desired position.

**Astern** – Toward the stern. An object that is aft of amidships is said to be astern on that boat.

**Bearing** – The direction or point of a compass in which an object is seen.

**Bilge** – The lower internal part of a boat's hull.

**Bow** – The forward part or front of a boat's hull.

**Capacity Plate** – Gives the maximum weight and people capacity and the boat's horsepower rating. Must be in full view of the operator's station.

**Can Buoy** – A can shaped buoy that is green in color, odd numbered, and marks the port (left) side of the channel from seaward.

**Capsize** – To turn over.

**Carburetor Flame Backfire Arrestor** – Required equipment on all motorboats except outboards and diesels. Reduces chance of fire caused by backfires in internal combustion engines.

**Cardinal Points** – The four main points on a compass – North (360 degrees); East (90 degrees); South (180 degrees); West (270 degrees).

**Chart** – A map of a body of water that contains piloting information.

**Come about** – To change course, or tack, in a sailboat.

**Compass** – The instrument that shows the heading of a vessel.

**Current** – The movement of the water in a horizontal direction.

**Displacement Hull** – Type of hull that plows through the water when more power is added.

**Draft** – The depth of the vessel below the water line, measured vertically to the lowest part of the hull.

**Fore** – Used to distinguish the forward part of a boat or things forward to amidships. It is the opposite of aft or after.

**Forward** – Toward the bow.

**Freeboard** – The vertical distance measured on a boat's side from the waterline to the gunwale.

**Give-way Vessel** – The one that must stay clear of vessels that have the right-of-way.

**Gunwale** – The upper edge of a boat's side.

**Hypothermia** – A physical condition where the body loses heat faster than it can produce it.

**Keel** – The permanently positioned, fore-and-aft backbone member of a boat's hull.

**Lee** – The side opposite to that from which the wind blows.

**Leeward** – Situated on the side turned away from the wind.

**Lubber's Line** – A mark or permanent line on a compass that shows the course of the boat.

**Mooring** – Commonly, the anchor, chain, buoy, pennant, etc., by which a boat is permanently anchored in one location.

**Motorboat** – Any watercraft 65' or less in length propelled by machinery. Whether or not such machinery is the principal source of propulsion.

**Nun Buoy** – A conical, red buoy bearing an even number and marking the starboard side of a channel from seaward.

**PFD** – Personal Flotation Device

**Planning Hull** – Type of hull that is shaped to lift out of the water at high speed and ride on the surface.

**Port** – The left side of a boat when you are facing the bow, also a destination or harbor.

**Privileged Vessel** – Former term for the vessel with the right-of-way.

**Rules of the Road** – The nautical traffic rules for preventing collisions on the water.

**Scope** – The length of the anchor rope or chain. 6 to 1 scope means that the length of the anchor rope from the boat to the anchor is 6 times the depth of the water.

**Stand-On Vessel** – The vessel with the right-of-way.

**Starboard** – The right side of a boat when you are facing the bow.

**Stern** – The after end or back of a boat.

**Tide** – The alternate rise and fall of waters caused by the gravitational attraction of moon and sun.

**Trim** – To arrange weights in a vessel in such a manner as to obtain desired draft at bow and stern.

**Vessel** – Every kind of watercraft capable of being used as a means of transportation on water.

**Wake** – Moving waves, created by vessel's motion. Track or path that a boat leaves behind it, when moving across the water.

**Way** – Movement of a vessel through the water. Technically you are under way when not at anchor, aground, or made fast to the shore.

## **Concept 9 – 3 BOAT OPERATION**

### **COS #77: Explain general navigation skills for safe boating.**

#### **Teacher Preparation**

The teacher will explain the basic navigation skills for safe boating.

#### **Student Learning Activities**

The student will gain an understanding of the skills necessary for safe navigation on waterways.

#### **Explanation**

Just as drivers must follow certain regulations on the highway, there are basic safety rules that need to be followed on the waterways. Some examples of negligent boater operation would include:

- Excessive speed in congested areas
- Mooring to a navigation buoy, regulatory buoy or other navigational aid
- Excessive speed in fog or stormy conditions
- Operating under the influence of alcohol or drugs
- Towing water skiers where obstructions exist or fall could cause them harm
- Operation in a swimming area with swimmers present
- Operating in the vicinity of dams when such areas are known to be hazardous
- Riding in seats elevated above the gunwales at above idle speed
- Cutting through a regatta or marine parade in progress
- Failure to keep a proper lookout for other boats, swimmers or obstacles

### **COS #78: Explain Alabama state required and United States Coast Guard required equipment for safe boating.**

#### **Teacher Preparation**

The teacher will explain the required equipment for a boat in Alabama and on coastal waterways.

#### **Student Learning Activity**

The student will understand what equipment is required on their vessel.

#### **Explanation**

Alabama requires all mechanically propelled vessels, sailboats and rental boats to be properly registered and numbered. All boats built since 1972 must have a Hull Identification Number (HIN) permanently attached to the transom on the starboard side, above the water line. The HIN must also be permanently attached in a second, unexposed location.

The US Coast Guard requires a wearable (Type I, II or III), Coast Guard approved, personal flotation device (PFD) for each person on board plus at least one throwable device. The PFD must be the correct size. For children under 8 years, they must be wearing their PFD and it must be strapped, snapped or zipped securely unless they are inside an enclosed cabin or sleeping space.

A readily accessible fire extinguisher is another required type of equipment. Always make sure the fire extinguisher is working properly by looking at the pressure gauges.

All vessels are required to have an emergency cut-off switch attached to the boat operator.

Vessels, except outboards and diesels, must have a backfire flame arrestor to safeguard against a fire. The use of cutoffs is prohibited and the motorboat level of noise cannot exceed 86 decibels.

All boats must carry some means of producing an efficient sound for warnings.

All vessels must show required running lights between sunset and sunrise and during periods of restricted visibility. A white light at the stern and a red light at port with a green light at starboard on the front of the boat are required for night boating.

### **COS #79: Explain navigational waterway-marking systems.**

#### **Teacher Preparation**

The teacher will explain the navigational waterway-marking system.

#### **Student Learning Activity**

The student will understand the waterway marking system and how they aid in navigation.

#### **Explanation**

Some keys to remember in the waterway-marking systems would include:

“red-right-returning” means that the red buoys always mark the right (starboard) side of the channel when returning from the open sea or going upstream in a river.

When heading downstream the red buoy would be on the left (port) side of the vessel.

Red buoys are always even-numbered.

Black or green buoys are odd-numbered.

### **COS #80: Discuss proper procedures for preparing for boating**

#### **Teacher Preparation**

The teacher will explain the procedures to follow to prepare for boating that would include how to fuel, load and unload a boat and preparing a float plan.

#### **Student Learning Activity**

The student would understand the steps to take when preparing for a boating trip.

## Explanation

When preparing for a boating trip it is important to remember the following:

When loading items onto a boat use a checklist to insure all items are on board and stowed securely.

Always hand equipment and items into the boat, don't try to carry them on.

When boarding, step into the center and give others an assist in boarding safely. Stay low and hold onto both sides for balance.

Distribute weight as evenly as possible.

File a float plan that includes a description of the boat, number of persons aboard, trip plan (departure and arrival estimates), and emergency numbers in the event of a problem. Leave the float plan with responsible person on the shore.

Check for full fuel tanks, check fuel lines for leaks.

## Concept 9 – 4 TRAILERING

### **COS #81: Understand the proper procedures for loading and unloading a vessel from a trailer.**

#### Teacher Preparation

The teacher will teach the proper procedures for loading and unloading a vessel from a trailer.

#### Student Learning Activities

The student will be able to explain how to properly load and unload a vessel onto its trailer.

#### Explanation

The trailer must be strong enough to carry the weight of the vessel, do not exceed the weight limits. Most trailers connect to a ball hitch that is bolted or welded to the towing vehicle. The trailer should be equipped with two safety chains. Taillights, brake lights and turn signals are required on the trailer. The wire coupling should be high enough to stay dry.

When trailering avoid sudden stops and allow extra following distances. Remember extra time will be necessary when passing and change lanes smoothly to avoid whipping the trailer.

Prepare the boat for launching at the top of the ramp or parking facility. Remove all tie-down straps, check transom boat plugs, and fasten the bow line. Do not release the winch line until the boat is in the water. Back the trailer to the left, if possible for better visibility. Avoid dunking the wheel bearings. Never leave the towing vehicle unattended with only the parking brake set, always put it in park.

When loading the boat, make sure the boat is equally placed on the trailer. Secure the winch line to the bow eye and put the boat up slowly and steadily.

Remember to attach the safety chains and check for lights to work properly.

## **COS #82: Understand the proper procedures for towing a vessel.**

### **Teacher Preparation**

The teacher will explain the proper towing procedures.

### **Student Learning Activity**

The student will be able to describe the proper way to tow a vessel.

### **Explanation**

Boat trailers must be licensed just as automobiles. One must be familiar with the laws pertaining to the towing of a vessel. Always keep the trailer in top condition. Make sure the trailer fits the vessel. The length of the boat determines the length of the trailer, the beam (width) of the vessel determines the width of the trailer. The boat should fit snugly on the trailer when it is cranked up to the winch support. Adjust the rollers and supports to conform to the boat's bottom. Make sure the boat is tied down properly to prevent shifting.

## **Concept 9 – 5 PERSONAL WATERCRAFT OPERATION**

### **COS #83: Compare personal watercraft to a conventional vessel.**

#### **Teacher Preparation**

The teacher will teach students the difference between PWC and other vessels.

#### **Student Learning Activities**

The students will be able to list the ways that PWCs are different from other vessels

#### **Explanation**

The fastest growing segment of the boating industry, Personal Watercrafts have their own unique place in boating. Personal Watercraft, or PWC's, by their very design are different from other vessels.

Personal watercraft have certain common characteristics. They have an inboard engine with jet drive and they are designed for the operator to safely fall overboard and reboard the vessel. The jet drive system eliminates parts, such as a propeller or rudder, on the outside of the hull, this eliminates risk to riders when falling overboard or reboarding.

PWCs are required to carry all equipment that is required on inboard powered boats, for example, a fire extinguisher. On PWCs all occupants must wear a PFD and must have a lanyard-type engine shut-off switch, unless the PWC is a self circling type. PWCs must operate under the same rules and regulations that any powered vessel has to obey. The operator must act in a reasonable and prudent manner. Maneuvers which endanger life, limb, or property, or create a public nuisance, such as: weaving through congested vessel traffic at high

speed, following closely behind the wake of a vessel towing a person or persons, jumping the wake of another vessel too closely, cutting between a boat and the person being towed, and cutting sharply in order to spray water on another person or vessel are not to be tolerated by the Marine Police. Remember the operator is responsible for any and all problems caused by their PWC.

## **Concept 9 – 6 BOATING HAZARDS AND PROBLEMS**

### **COS #84: Identify common hazards and problems of the marine environment.**

#### **Teacher Preparation**

The teacher will identify for the student hazards and problems related to the marine environment

#### **Student Learning Activities**

The student will be able to list and understand the hazards of boating.

#### **Explanation**

Students should be made aware of the hazardous conditions that they might encounter during a day “on the water. Most boating fatalities are the result of a capsizing or falling overboard. Most non-fatal boating accidents are the result of a collision with another boat or an object in the water. Most boating fatalities occur in small open boats on small inland bodies of water in mid to late afternoon, on weekends during the summer months. The weather is normally good, with calm winds and water, and good visibility. Most accidents are sudden, unexpected occurrence and most people do not have time to get their PFD on and then they drown.

To prevent capsizing, don't overload the boat with either passengers or gear. Should the boat capsize, grab a PFD and stay with the boat until help arrives. Only leave the safety of the boat as a last resort.

To prevent falls overboard, don't stand up in a small boat or ride on the gunwales, seat backs or bow. In the event of a fall overboard, follow these procedures:

- Toss the person a life saving device—something that will float
- Keep the person in view
- Try to approach from downwind
- Assist the person on board over the stern
- Always turn off the motor when alongside someone in the water

To avoid a collision, always keep a sharp lookout for other boats and potential hazards. Learn drownproofing strategy. To assist someone from the shore use the reach, throw, row, go method, don't immediately go to the person that puts two people in danger. Don't drink on the waterways. The sun, the waves, the motion of the boat combine to increase the effects of alcohol at a much faster rate than on the shore.

If an accident does occur the boat operator must file an accident report to the Marine Police if any of these occurred:

1. A person dies.
2. A person disappears.
3. A person is incapacitated for a period in excess of 72 hours.
4. Property damage is more than \$50.00.

The report must be made within 10 days.

# **Appendix A**

## **Performance-Based Evaluation Of On-Street Driving**



# Performance-Based Evaluation on Street Driving

The Driver and Traffic Safety Education course is a performance-based instructional program that accommodates varying levels of knowledge and driving ability of students choosing to participate in Driver Education. It is recognized that varying conditions exist throughout the state with individual students, facilities, and circumstances that will necessitate different time frames for fulfilling the competencies required to comply with this performance-based program. There is no specific number of hours required for students to complete the behind-the wheel phase of driving; however for overall planning and scheduling purposes, **it is recommended that approximately six hours per student should be allowed to complete this instruction.**

The behind-the wheel phase should be the culminating portion of driver and traffic safety education program in which the students put into practice situations covered in the classroom phase of instruction. The behind-the wheel phase should begin with the basics of properly executing pre-start checks and should progress through the starting, moving, stopping, of the engine and moving the car forward or backward. These basic car maneuvers should be followed by more complex procedures such as turning, parking, meeting traffic, passing and safely driving in both rural and urban areas.

## Concept 1-1 PRE-START CHECKS & PREPARING TO DRIVE

### **COS #85: Identify all controls, devices and gauges in the driving compartment.**

#### **Performance-based Evaluation**

After instruction, the students should be able to identify with 100% accuracy the parts of the dashboard.

#### **Explanation**

When driving a car for the first time, always take the time to get a “feel” for the controls. Each vehicle is different, and the controls for one car may be more or less sensitive than the same controls on another car.

#### **Dashboard lights and gauges**

The speedometer, tachometer, odometer, fuel gauge, temperature warning light, alternator light, oil engine light, high beam indicator light, safety belt warning light and buzzer, and brake system warning light serve important functions and are all part of the vehicle instrumentation. The instrument panel contains gauges and warning lights. A gauge has a scale with an indicator needle or numerical marker that keeps track of a changing condition like fuel level or speed. Warning lights, which are usually red or yellow to attract your attention, indicate a more serious problem or safety concern.

#### **Operating Devices**

Motor vehicles are equipped with many devices that must be operated by the driver. Some are required for the safety of the driver and passengers. Some are designed to increase comfort and convenience.

Moreover, headlights, daytime running lights, back-up lights, interior rearview and exterior sideview lights, brake lights, and others are essential devices to insure

your safety and to make you more visible to others. In addition, others are also more visible to you.

Nevertheless, windshield wipers, the horn, mirrors, seat adjustment controls, locks, windows, sun visors, heaters, the air conditioner, defroster controls, and others are significant devices used for safety, convenience and comfort. Review the "owner's manual" for further explanation

### **COS #86: Execute the pre-start procedure.**

#### **Performance-based Evaluation**

The student will demonstrate within one minute the correct pre-start procedure.

#### **Explanation**

Refer to COS #29 for complete explanation.

### **COS #87: Ensure that all occupants are secured in restraint devices.**

#### **Performance-based Evaluation**

The student will check for restraints on all occupants each time they get behind the steering wheel.

#### **Explanation**

Refer to COS #18 for complete explanation

### **COS #88: Demonstrate correct engine starting and stopping procedures.**

#### **Performance-based Evaluation**

After instruction, the student will demonstrate in one of two attempts the correct procedures for starting and stopping (securing) the vehicle.

#### **Explanation**

Refer to COS #30 for complete explanation

## **Concept 1- 2 BASIC CAR CONTROL**

### **COS #89: Demonstrate the minimum elements of basic car control.**

#### **Performance-based Evaluation**

After instruction and practice, the student will be able to demonstrate basic car control, such as shifting, moving forward, steering, and stopping. After practice the student will be able to back the car in a straight line for at least fifteen seconds. These should be performed without further instruction.

## **Explanation**

Refer to COS #32 for complete explanation.

### **COS #90: Demonstrate appropriate posture while driving.**

#### **Performance-based Evaluation**

The student will, after instruction, demonstrate the appropriate driving position each time they are behind the steering wheel.

## **Explanation**

Good posture is important when sitting behind the steering wheel. It will result in better vision, control, and ability to maneuver in an emergency. You should sit erect comfortably gripping the outside rim of the steering wheel with both hands. Do not grip the wheel so tightly as to restrict reflexes but keep a firm grip to maintain control. Always keep both hands on the wheel except when it is necessary to remove one for signaling or for another purpose necessary to the operation of the vehicle.

When steering in a straight line, it is recommended for the hand position to be in the "9" and "3" or "8" and "4" positions, with thumbs up, in case of an accident where air bags might be deployed. Always look and steer toward a point in the center of your intended path of travel. The current hand position for turn is "hand over hand" or the "push-pull-feed" method. Both the "8 & 4" and "push-pull-feed" are preferable if the vehicle is equipped with driver side air bags. Refer to COS #32 for complete explanation

## **Concept 1 – 3 RIGHT AND LEFT TURNS**

### **COS #91: Demonstrate proper procedures for right and left turns.**

#### **Performance-based Evaluation**

After instruction and practice, the student will demonstrate the proper left-turn and right-turn in two out of three attempts without further instruction.

## **Explanation**

Refer to COS # 32 & 34 for complete explanation.

## **Concept 1 – 4 TURNABOUTS**

### **COS #92: Demonstrate correct procedures for turnabouts.**

#### **Performance-based Evaluation**

After instruction the student will be able to perform each of the turnabouts (Y-turnabout or 3 point, T-turnabout or 2 point, U-turnabout) one out of two times without further instruction.

## Explanation

Refer to COS #32 for complete explanation

## Concept 1 – 5 PARKING AND REENTERING TRAFFIC

### **COS #93: Demonstrate correct procedures for parking.**

#### **Performance-based Evaluation**

The student will, after instruction, be able to perform the angle and perpendicular parking one out of two times without further instruction.

#### **Explanation**

Refer to COS #36 for complete explanation of parking.

#### **Re-entering Traffic**

When re-entering traffic from a parking space, first check for traffic in your rearview and sideview mirrors. Turn your head to make sure that your blind spots are clear. Warn other drivers that you are preparing to exit the parking space by signaling with your turn indicator. When it is clear and safe to move, slowly pull away from the curb and into the nearest lane on the street. Gradually accelerate to a normal driving speed and cancel your turn signal.

### **COS #94: Demonstrate correct procedures for starting on hills.**

#### **Performance-based Evaluation**

After instruction the student will demonstrate the proper procedure for starting on a hill one out of two times without further instructions.

#### **Explanation**

To start a manual shift car on a hill, follow these steps:

- Set the parking brake
- Press the clutch pedal to the floor then shift into first gear.
- Let the clutch pedal up to the friction point, pressing gently on the accelerator
- Release the parking brake as you feel the vehicle begin to pull forward
- Accelerate in first gear

Don't hold the vehicle in place by pressing the gas pedal slightly while keeping the clutch near the friction point. This is called "riding the clutch" and will wear your clutch needlessly.

### **COS #95: Demonstrate the proper techniques for parking on hills.**

#### **Performance-based Evaluation**

After instruction the student will use the correct technique for parking up and down hill, with and without a curb, one out of two times for each without further instruction.

## **Explanation**

Refer to COS #36 for complete explanation.

## **Concept 1 – 6 CONTROLLED & UNCONTROLLED INTERSECTIONS**

### **COS #96: Identify intersections as controlled or uncontrolled.**

#### **Performance-based Evaluation**

After instruction, the student will be able to identify types of intersection with 100% accuracy without further instruction.

#### **Explanation**

There are three basic types of intersections. Controlled intersections use some form of signal, sign or control device to direct the flow of traffic. Semi-controlled intersections have either signs or signals on one or several approaches to the intersection, but not on every approach. This type of intersection is very dangerous precisely because it does not tell every driver exactly what to do. Uncontrolled intersections lack any form of control, such as traffic signs or signals, to regulate traffic. They are typically found in rural and residential areas with little traffic congestion.

### **COS #97: Demonstrate proper procedures for safely negotiating intersections.**

#### **Performance-based Evaluation**

After instruction, the student will demonstrate correct right-of-way and Yielding rules of the road.

#### **Explanation**

Right of way rules are an aid to safe and smooth traffic flow. They emphasize courtesy and common sense. But the violation of these rules is one of the main causes of traffic crashes. It is smart to obey right of way rules.

Refer to COS #12 for complete explanation.

## Concept 1 – 7 PASSING, MERGING, AND LANE CHANGES

### COS #98: Demonstrate the proper steps in negotiation a safe passing maneuver.

#### Performance-based Evaluation

After instruction and practice, the student will execute two out of three times proper passing maneuvers without further instruction.

#### Explanation

Passing requires practice and experience. You must learn how to judge the relative speeds and distances of vehicles, including vehicles going in opposite directions. Just as important, you must be able to identify whether passing is appropriate in different situations. Even if a passing maneuver is legal, it may not be safe.

##### Safe Passing

To pass safely, first ask yourself whether the pass is necessary and legal. Use the **SAFE** process:

**Scan** for oncoming vehicles, vehicles approaching from the rear, merging vehicles, and any activity on the side of the road. Taking into account the limits of your vision and depth perception, determine how long it will take to make the pass and whether you are able to correctly judge the distance necessary to do it safely. The faster that your vehicle and the vehicle you are trying to pass are traveling, the more time and room you will need to safely complete the pass.

**Assess** the driving environment and road conditions, including traction, weather, visibility, width of road, obstacles, and amount of traffic. Make sure that pedestrians, bicyclists, or anybody else will not be placed in jeopardy by your pass.

**Find** safe points ahead to begin and complete your pass. Allow yourself a reasonable margin of safety.

**Execute** the pass, once you have determine if it is safe to do so.

### COS #99: Demonstrate methods for making lane changes to both left and right.

#### Performance-based Evaluation

After instruction and practice, the student will make two out three proper lane changes without further instruction.

#### Explanation

Refer to COS #35 for complete explanation.

## **COS #100: Demonstrate methods for merging into traffic.**

### **Performance-based Evaluation**

After instruction and practice, the student will demonstrate proper merging procedures entering and exiting a highway without further instruction.

### **Explanation**

The merging area is the space where the acceleration lane merges with the freeway or mainway. Before reaching the merging area, you should be traveling at about the same speed as other vehicles in the traffic flow. Checking traffic and signaling are very important techniques and methods used in this maneuver. As you enter the merging area, steer gradually into the through lane. Make periodic speed adjustments to blend into traffic smoothly. Continue to check traffic in all lanes, and watch for drivers that unexpectedly slow down, accelerate or change lanes. Do not rely on your mirrors. Turn your head in the direction that you are merging to make sure that your blind spots are clear. Refer to COS #66 for complete explanation.

## **Concept 1 – 8 RURAL AND URBAN DRIVING**

### **COS #101: Demonstrate proficiency in rural driving.**

#### **Performance-based Evaluation**

After instruction and practice, the student will demonstrate their ability to cope with the unique driving situations during, at least, fifteen minutes of driving in a rural setting.

#### **Explanation**

Refer to COS #57, #58 and #59 for complete explanations.

### **COS #102: Demonstrate proficiency in city driving.**

#### **Performance-based Evaluation**

After instruction and practice, the student will demonstrate their ability to cope with the unique driving situations during, at least, fifteen minutes of driving in a city setting.

#### **Explanation**

Refer to COS #60, #61, #62, #63 and #64 for complete explanations.

## Concept 1 – 9

## TRAFFIC OBSERVATION

**COS #103: Assess driving practices of other drivers and learn to respond appropriately using defensive driving techniques.**

### Performance-based Evaluation

The student will successfully demonstrate usage of the Smith System of defensive driving and/or the SIPDE system of safe driving.

### Explanation

Defensive driving is a method of driving that emphasizes anticipating and avoiding danger on the roadway. By staying alert and being prepared for the worst, you will be able to manage almost any hazard or situation with confidence and control.

Defensive drivers actively observe, analyze, and plan. They evaluate road and traffic conditions, assess what other drivers and pedestrians will do, weigh their options and decide on the best solution before they act. They do not blindly react to whatever happens around them.

Refer to COS #37 & #38 for complete explanations.



# **Appendix B Optional Instruction for Behind-the-Wheel Phase**

## **Simulation**

# Optional Instruction For Behind The Wheel Phase

## Simulation

Simulation is a means of creating life-like driving situations in a controlled environment. In simulation all the basic Behind-The-Wheel skills can be practiced, as well as additional skills that cannot be experienced during the actual driving practice. For example, night driving techniques can be adequately covered in simulation, but not practiced behind the wheel. Even though simulation provides no actual car motion it can duplicate the driving environment by allowing students to drive simulated cars through traffic situations presented on a wide screen in full color and sound.

## Course Objectives Of Simulation

- To develop proper perceptual, judgmental and decision making capabilities relative to the driving task.
- To provide learning experience in a variety of simulated driving environments.
- To develop procedural response and manipulative skills.

## Components Of The Basic Simulation System

### Student Unit:

The simulation car is similar in design and instrumentation to a regular vehicle in order to facilitate student transition to the actual vehicle.

### Individual Feedback Panel

The individual feedback panel is featured on the top of each simulator. This unit will notify students, by a color coded visual warning, when a response is inappropriate or if no response has been made. This is done through a binary code from the soundtrack of each of the programmed films or by manual checks done by the instructor.

### Instructor Console

This is also referred to as the student evaluation device for simulation. The console is the control center for the system, which enables the instructor to monitor student progress. Its main function is to collect, interpret, respond to, and relay information to the instructor and the student.

### Wide Screen Programmed Films

The films used are coded to identify the responses performed by the student. Within each film, there is a planned progression of situations to provide the student with increasingly challenging experiences from sequence to sequence.

## Advantages Of Simulation

- Behind-the-Wheel time can be more productive if students have first learned the driving tasks on the simulators.
- More actual hours of learning can be provided per student than in a behind the wheel only program.
- More variety in driving experiences than on the road only (ex. driving in snow or ice, night driving, emergency situations, evasive actions)
- Simulation can teach students how to cope with emergency situations that cannot happen safely in a Driver Education car.

- The various driving skills are broken down into manageable learning units.
- The introduction and development of skills progress from the simple to the more difficult.
- Repetition of learning activities permit relearning, review or evaluation.
- Each driver receives immediate feedback of inappropriate, or lack of, responses to a particular program and the ability to correct the response.
- The instructor has the opportunity to observe both individuals and group progress simultaneously.
- Provides the same exposure to all students.
- Provides immediate reinforcement to concepts taught in the classroom phase.

Lesson plans should be used to enhance the simulation experience. Lessons taught in the classroom can be reinforced immediately in simulation, particularly on a block schedule. Because there are different simulation systems used in Alabama, day-by-day lesson plans are not included with this curriculum guide. Each school system using the simulation phase will follow the lessons, which are supplied by the simulation system manufacturer.

**APPENDIX C**  
**Optional**  
**Instruction for**  
**Behind-the-Wheel**  
**Phase**

**Multiple-Vehicle**  
**Driving Range**

## **Optional Instruction for the Behind-the-Wheel Phase Multiple-Vehicle Driving Range**

This optional phase of Driver Education, called Multiple-Vehicle Driving Range, is used by schools who have the land and the resources to construct and operate such a site.

The Multiple-Vehicle Driving Range is an off-street, paved area incorporating a variety of realistic traffic situations that will develop the identification, prediction, decision and execution abilities of the driver. On this area, several driver education vehicles, with students at the wheel, are used for practice driving under the direction of one or more driver education instructors located outside the vehicle. The area may be a closed street, parking lot, or an area that has been designed for multiple-vehicle driving range purposes. The space should be wide enough for multiple-lane traffic and include intersections, curves, lane markings, signals and signs. The area must have an effective communication system between students in the vehicles and the instructors in the training area.

The advantages of a multiple-vehicle driving range would include:

- Increase the student-teacher ratio
- Self-reliance and responsibility are developed
- Public liability is reduced
- Operating costs are reduced
- Students gain experience in a variety of vehicles
- Traffic can be simulated for desired situations
- Attention can be given to the development of basic skills in a safe, off-street environment

**Due to the lack of multiple-vehicle driving ranges located in the state, a complete curriculum guide is not included in this printing. For information on a curriculum for Multiple-Vehicle Driving Range, please contact the State Department of Education, Driver and Traffic Safety Division.**

# **Appendix D Expanded Driver and Traffic Safety Terms and Definitions**

# Expanded Driver and Traffic Safety Terms and Definitions

1. **Absolute speed limit** – the maximum or minimum posted speed limit at which one may drive under normal circumstances.
2. **Acceleration** – an increase in vehicle speed.
3. **Acceleration lane** – a lane used by drivers entering an expressway to pick up speed so they can merge with expressway traffic.
4. **Accelerator** – pedal that controls the flow of fuel to the engine to regulate speed.
5. **Active restraint** – safety belt that a person has to buckle.
6. **Adhesion** – sticking together. In automotive terms, traction.
7. **Administrative law** – a law regulating driver licensing, vehicle registration, financial responsibility of drivers and vehicle owners, or minimum equipment and care standards for vehicles.
8. **Advisory speed sign** – square, yellow sign informing drivers of the maximum safe speed on a curve under ideal conditions.
9. **Air bag** – a passive restraint device that inflates in the event of a collision and prevents occupants from striking the dashboard.
10. **Alternate path of travel** – an emergency route to be taken if the intended (immediate) path of a vehicle is suddenly blocked. This escape route should be planned 4 seconds ahead at any given time.
11. **Alternator** – a device that produces the electricity to recharge the battery and operate electrical equipment in a running vehicle.
12. **Alternator gauge/light** – a light or gauge that warns a driver if the battery is not being properly charged.
13. **Angle parking** – parking so that cars are arranged side-by-side, at an angle with a curb or other boundary.
14. **Antifreeze** – a chemical solution used with or instead of water in the vehicle's radiator to prevent freezing.
15. **Anti-Lock braking system (ABS)** – a braking system that is designed to keep a vehicle's wheels from locking when a driver brakes abruptly.
16. **Automatic transmission** – a system in which a vehicle automatically shifts through the forward gears as it is accelerated.
17. **Axle** – the shaft upon which the wheels revolve.
18. **Backup lights** – white lights at the rear of a vehicle that shine when the transmission is put in reverse.
19. **Banked curve** – a roadway that slopes down from one edge to the other.
20. **Basic speed limit** – any speed below the absolute limit that is safe for existing roads, weather, or traffic conditions.
21. **Battery** – a group of electric cells connected as a unit to furnish current by means of chemical reaction.

22. **Behind the Wheel (BTW)** – actual on the street driving in a dual controlled vehicle under the supervision of a certified instructor.
23. **Blind spots** – areas to the sides and rear of a vehicle that a driver cannot see in the rearview mirrors.
24. **Blind turn** – a turn along which the driver's vision is blocked. Only the section of the road immediately ahead is in sight.
25. **Blood Alcohol Concentration (BAC)** – percentage of alcohol found in the bloodstream as measured by chemical tests of blood or urine.
26. **Blowout** – sudden loss of tire air pressure while driving.
27. **Blue Book** – book that lists the average price paid to dealers for various makes and models of used cars.
28. **Bodily injury liability insurance** – insurance that protects the driver against financial loss due to injuries caused to another person in a collision.
29. **Brake fade** – loss of braking effectiveness caused by overheating of the brakes after long, continuous, hard braking.
30. **Brake lights** – red warning lights on the rear of a vehicle that are activated by pressing the service brake pedal.
31. **Braking distance** – the distance a vehicle travels from the time the brake pedal is depressed to the time the vehicle comes to a complete stop.
32. **Braking skid** – a skid, caused by a sudden hard braking in which one or all wheels lock and the back end of the car slides to the left or right.
33. **Broken white line** – roadway marking to divide traffic going in the same direction.
34. **Broken yellow line** – roadway marking to divide traffic going in opposite directions.
35. **Canceled license** – one that is ruled to be void by the Director of Public Safety upon determining that the person was not entitled to the license; failing to give required or correct information on a driver license application or committing any fraud in making an application.
36. **Carbon monoxide** – a poisonous gas emitted through an automobile's exhaust system.
37. **Carburetor** – part of the engine that mixes air and gasoline in the proper proportion and sends it to the combustion chambers as a fine mist.
38. **Car pooling** – several individuals sharing transportation to one or more destinations in a car.
39. **Center of gravity** – the point around which the weight of a vehicle is balanced.
40. **Centrifugal force** – the force that tends to push a vehicle out of a curve or turn onto a straight path.
41. **Chassis** – the steel frame that holds together a vehicle's major operating parts (the engine, transmission, brakes, wheels, etc.)
42. **Citation** – a ticket or summons to appear in court to answer a charge of breaking a law.



43. **Classroom phase** – driving theory presented in lectures, discussions, and audio-visual aids in a traditional classroom setting.
44. **Closing movements** – actions by other highway users that may lead them into a driver's path and cause a collision.
45. **Clutch** – the device in a standard-transmission vehicle that disengages the engine power from the drive wheels so that gears can be shifted.
46. **Collision** – a crash between motor vehicles or between a motor vehicle and another object.
47. **Color perception** – the ability to see color.
48. **Comprehensive insurance** – insurance protection that covers one's vehicle in the event that it is stolen or damaged by vandalism, storms, or fire.
49. **Compromising hazards** – risking involvement with one hazard to avoid a more serious hazard.
50. **Construction sign** – warning signs to advise drivers that road crews are working on or near the road. Unlike other warning signs, which are yellow, construction signs are orange.
51. **Controlled access highway** – a highway that vehicles can enter or exit only at designated entrances and exits.
52. **Controlled braking** – a braking technique that involves applying steady but progressively greater pressure to the service brake pedal to stop quickly without skidding.
53. **Controlled intersection** – an intersection that is regulated by traffic lights or stop signs at all approaches.
54. **Controlled railroad crossing** – railroad crossing controlled by flashing red lights and/or crossing gates.
55. **Coolant** – a liquid added to a motor vehicle's radiator to reduce heat.
56. **Cooling system** – system to keep engine cool by forcing air over metal cooling vanes that surround the cylinders.
57. **Cornering skid** – a skid that results from taking a turn or curve too fast.
58. **Counter skid** – a skid that results from oversteering to correct a skid or from failing to straighten the wheels quickly enough after recovering from a skid.
59. **Covering the brake** – putting the foot just above the brake pedal, ready to apply pressure if needed.
60. **Crossovers** – special areas on divided highways where vehicles can turn around to go in the opposite direction. Unpaved crossovers are generally restricted to emergency or law-enforcement vehicles.
61. **Crosswalk** – a pathway marked off for use by pedestrians when they cross a street.
62. **Crosswalk lines** – white lines that guide pedestrians across intersections.
63. **Crowned road** – a roadway that slopes down from the middle to each side.
64. **Cruise control** – device that allows the car's speed to be set automatically for highway or expressway driving.

65. **Dashboard** – a panel under the windshield of a vehicle containing indicators, gauges, compartments, and sometimes hand controls.
66. **Death Zone** – the area around a stopped school bus.
67. **Decelerate** – to slow down.
68. **Deceleration lane** – a lane used for slowing down as you exit from an expressway.
69. **Decide** – the fourth step in the SIPDE process in which a driver determines what course of action to take.
70. **Deductible policy** – an insurance policy providing that the driver pay a given amount of the damage (the first \$100, for example) and the insurance company the rest.
71. **Defensive driving** – art of protecting yourself and others from dangerous and unexpected changes in the driving environment.
72. **Defroster** – a heating unit that clears moisture from the inside of the front and rear windows and ice from the outside surfaces.
73. **Delayed green light** – traffic light that remains red while oncoming traffic lanes clear; the light then turns green.
74. **Depreciation** – decrease in the value of a car as a result of its increasing age.
75. **Depth perception** – ability to judge distance between you and other objects.
76. **Detour** – a temporary alternate route.
77. **Diagonal parking spaces** – parking spaces arranged side by side at an angle to the curb or side of the road.
78. **Dimmer switch** – a switch that is used to select low or high-beam headlights.
79. **Directional signal** – a signal that tells other drivers that a motor vehicle plans to turn or move to the right or left.
80. **Disc brakes** – a braking system that creates stopping friction by pressing both sides of a round disc.
81. **Downshift** – the process of shifting from one transmission gear to a lower gear.
82. **Driver's license** – state issued permit legally granting a person the right to operate a motor vehicle in the HTS.
83. **Driving task** – all the skilled actions a driver must take to drive safely.
84. **Driving Under the Influence (DUI)** – an offense for which a driver can be charged for being under the influence of alcohol and/or other drugs.
85. **Edge line** – solid white line to mark the outside edge of the outermost lane of traffic.
86. **Electrical system** – in a car, consists of the battery, the alternator or generator, the voltage regulator, and wires to carry electricity throughout the car.
87. **Emergency brake** – the parking brake.
88. **Emergency flasher** – device that flashes front turn-signal lights and taillights to warn others the vehicle is a hazard.

89. **Emergency vehicle** – a police car, fire truck, or ambulance, which is given the right of way when its lights are flashing and siren is blaring.
90. **Emotion** – strong feeling of any kind, such as joy, grief, fear, hate, love, anger, and excitement.
91. **Energy of motion** – kinetic energy or the energy an object has because it is moving.
92. **Engine** – part of the car that produces the car's power by exploding an air-fuel mixture within its cylinders.
93. **Entrance ramp** – a roadway that serves as a controlled-access point leading to a highway or expressway.
94. **Escape path** – place to go in case of unexpected conflict.
95. **Escape route** – path available for swerving to avoid a hazard.
96. **Evasive action** – a quick change in speed or direction to avoid a collision.
97. **Execute** – the final step in the SIPDE process in which a driver uses vehicle controls and equipment to change speed, change direction, warn other drivers, or perform a combination of these maneuvers.
98. **Exhaust system** – the pipes and other parts of the automotive system that carry waste gases from the engine and reduce the noise of the explosions in the engine cylinders.
99. **Exit ramp** – a roadway that is used for leaving a controlled-access expressway or highway.
100. **Expressway** – a controlled-access, divided highway designed for high-volume, high-speed traffic.
101. **Fan belt** – a flexible band driven by the crankshaft that turns the radiator fan and drives the alternator.
102. **Felony homicide** – a situation where death occurs due to serious violations of law.
103. **Field of vision** – the total range of space that one can see without moving one's eyes.
104. **Field sobriety test** – roadside tests given by police officers to detect driver impairment.
105. **Fixed, or absolute, speed limit** – a speed limit that may not be exceeded for any reason.
106. **Flashing red light** – light to indicate that a driver must come to a full stop before proceeding.
107. **Flashing signals** – flashing lights used at intersections where traffic is not very heavy or steady.
108. **Flashing yellow light** – light to indicate a possible hazard. It means to slow down, check traffic, and proceed with caution.
109. **Flexible, or prima facie, speed limit** – a limit that varies according to existing conditions.

110. **Following distance** – the time-and-space gap between vehicles traveling in the same lane of traffic.
111. **Force of impact** – the force with which a moving vehicle hits another object.
112. **Fresh green light** – traffic signal that has just turned from red to green.
113. **Friction** – resistance between 2 objects when they rub against each other.
114. **Friction point** – while the clutch pedal is being released, the point at which the clutch and other power-train parts begin to work together.
115. **Fuel gauge** – an indicator that shows the amount of fuel in the fuel tank.
116. **Fuel system** – consists of the fuel tank, the fuel pump, the carburetor, and the intake manifold.
117. **Gap** – distance a driver has between approaching cars in which to cross an intersection or join traffic.
118. **Gas pedal** – the accelerator.
119. **Gauge** – an instrument with a graduated scale or dial that indicates quantity or amounts.
120. **Gear-indicator quadrant** – tells you which gear the car is in.
121. **Gear-selector lever** – the lever that allows the driver to select a gear.
122. **Gearshift** – an assembly of parts that permits changing from one gear to another by engaging and disengaging the transmission gears.
123. **Glare recovery time** – time required to regain clear vision after having been temporarily blinded by a strong light.
124. **Glare resistance** – ability to continue seeing when looking at bright lights.
125. **Graduated driver licensing program** – program requiring young drivers to progress through a series of licensing stages with various restrictions.
126. **Gravity** – force pulling all objects toward the center of the earth.
127. **Green arrow** – used on a traffic signal to permit drivers to move only in the direction shown by the arrow. Used also as a special lane-control light if the lane is open to traffic facing the signal.
128. **Green X** – a signal light hung over a lane of traffic to indicate that the lane is open to traffic facing the signal.
129. **Guide signs** – signs along a roadway that provide information about location, direction, availability or services, or points of interest.
130. **Hallucinogen** – mind-altering drug that tends to distort a person's perceptions of time, distance, and the shapes and colors of objects.
131. **Hand-over-hand steering** – method of turning the steering wheel in which one hand pulls the steering wheel down while the other hand crosses over to pull the wheel farther down.
132. **Hand signals** – arm motions or positions that alert other drivers that one is slowing, stopping, or turning right or left.

133. **Hazard flasher** – a signaling device that makes all four turn signal lights flash at once. It is used to warn other drivers that a vehicle ahead has stopped or is moving very slowly.
134. **Headlights** – lights mounted on the front of a vehicle for use at night or in reduced lighting conditions.
135. **Head restraint** – a padded device, sometimes adjustable, extending above the front seat-back; designed to reduce whiplash or neck injuries.
136. **High beams** – a headlight setting that projects light farther ahead of a vehicle than lowbeams.
137. **Highway** – a main public roadway, especially one that runs between cities. It includes roads, streets, bridges, and tunnels.
138. **Highway hypnosis** – dulled or drowsy, trancelike condition caused by concentration on the roadway ahead and monotony of driving.
139. **Highway transportation system (HTS)**--complex system made up of people, vehicles, and roadways.
140. **Hood release** – lever under instrument panel on left side that releases the hood lock.
141. **Hydraulic brake system** - a system of brakes that works on the principle that fluid cannot be compressed.
142. **Hydroplaning** – condition in which tires of a moving vehicle ride on the surface of water causing loss of steering and braking control.
143. **Identify** – second step of the SIPDE process in which the driver determines potential hazards.
144. **Idle** – to run at a slow speed with little or no pressure on the accelerator: said about an engine. Generally, the transmission is in neutral gear.
145. **Ignition** – a system, controlled by a switch, which provides the spark that causes the fuel and air mixture in the engine to burn.
146. **Ignition system** – the automotive system used to start a vehicle and to send an electrical charge to the spark plugs.
147. **Immediate path of travel** – the route to the point where a driver hopes to be, in normal traffic, 4 seconds from a given time.
148. **Impact restraint** – especially made to absorb the force resulting from striking an object: said about a bumper.
149. **Implied-consent law** – state law providing that when a driver is granted a license, that driver agrees to take a chemical test for intoxication if arrested on suspicion of driving under the influence of alcohol or to give up the license.
150. **Inertia** – the tendency of an object in motion to resist any change in direction and of an object at rest to resist motion.
151. **Information sign** – sign to guide and direct drivers. All have symbols that can be easily recognized.
152. **Instruction permit** – a state-issued, temporary, restricted license that allows a person to use the roadways when learning how to drive.

153. **Instrument panel** – the panel directly in front of the driver on which are located various indicators, gauges, and controls.
154. **International symbols** – symbols used on international signs that give a message without using words.
155. **Intersection** – a place where two or more streets cross.
156. **Interstate** – involving, or connecting, two or more states.
157. **Intoxilizer** – computerized machine that analyzes and determines the blood-alcohol concentration through the amount of infrared light absorbed by the breath.
158. **IPDE process** – organized system of seeing, thinking, and responding that includes the steps of identifying, predicting, deciding, and executing.
159. **Jack** – hand-operated device for lifting one corner of the car, generally used for changing a tire.
160. **Jackknife** – to form the shape of a letter L – a 90-degree angle (the action of a vehicle and its trailer in making a turn improperly).
161. **Jumper cables** – cables used to carry an electrical charge from the battery of a working vehicle to the dead battery of another vehicle.
162. **Jump-starting** – starting a car by attaching its battery (which is dead) to the charged battery of another vehicle by means of cables.
163. **Junction** – the area where two or more roadways meet.
164. **Kinetic energy** – energy of motion. Also called momentum.
165. **KPH or km/h** – abbreviations for kilometers per hour – that is, number of kilometers traveled in one hour.
166. **Lane signal** – signal, usually overhead, that designates a lane can or cannot be used at a specific time.
167. **Lateral access** – areas such as intersections where pedestrians or vehicles can enter your driving path.
168. **Law of inertia** – law stating that an object in motion will continue in a straight line unless some force acts against it.
169. **Learner license** – a restricted learner license for 15-year olds for the purpose of learning to operate a motor vehicle safely and effectively. The holder may operate a vehicle while accompanied by a parent or legal guardian who is duly licensed in this state or a licensed or certified driving instructor occupying the seat beside the operator.
170. **Legend** – description of symbols on a map.
171. **Liability insurance** – insurance coverage that pays for bodily injury and property damage to others in a collision caused by the insured.
172. **Liable** – responsible according to the law.
173. **Limited access (road)** – a road that only certain vehicles may use and one, which has limited points of entry and exit.
174. **Low-beam** – of low-degree brightness: said about headlights.

175. **Lubricating system** – a system that reduces heat by coating the engine parts with oil.
176. **Lug nuts** – small pieces of hardware that hold a wheel to a car.
177. **Maintenance** – the checkups, service, and repairs needed to keep one’s vehicle in good operating condition.
178. **Maintenance sign** – a warning sign to advise drivers that road crews are working on or near the road. Unlike other warning signs, which are yellow, these are orange.
179. **Manual shift** – hand-operated gearshift.
180. **Map scale** – line an inch or more long in appearance in the legend of a map, indicating a measurement in miles for distances on that map.
181. **Master-brake cylinder** – unit in hydraulic braking system in which fluid is stored and from which it is forced through the system to the wheel cylinders.
182. **Median strip** – an area on a highway that separates opposing lanes of traffic.
183. **Medical payments insurance** – insurance that covers the cost of hospitalization and treatments for passengers who are injured in a collision.
184. **Merging area** – stretch of roadway at the end of an acceleration lane on an expressway where cars join the flow of traffic.
185. **Minimal insurance coverage** – the least amount of automobile insurance made available to drivers.
186. **Minimizing hazards** – reducing chances of becoming involved in a collision by adjusting speed, changing lane position, or both.
187. **Minimum-maximum speed limits** – the slowest and fastest posted speeds at which you can legally drive under normal conditions.
188. **Momentum** – energy of motion. Also called kinetic energy.
189. **MPH** – abbreviation for miles per hour; that is, the number of miles traveled in one hour.
190. **Muffler** – an attachment that reduces engine noise caused by the explosion of the air and fuel mixture.
191. **Multiple-hazard condition** – a situation having several hazards at once.
192. **Multiple-lane highway** – a highway having more than one lane running in each direction.
193. **Multiple Vehicle Range** – an off street area where several cars are used to provide driving experiences that are supervised by one or more instructors.
194. **Neutral** – the position in which the car gears are not engaged and no power can be transmitted.
195. **Night blindness** – condition of not being able to see well at night.
196. **Night vision** – one’s visual acuity, depth perception, and glare recovery after dusk and before dawn.
197. **No-fault insurance** – an insurance plan that requires insurance companies to pay personal injury claims to those insured by them regardless of which driver was at fault in a collision.

198. **No-passing lines** – solid yellow lines that separate lanes of opposing traffic.
199. **No zone** – large blind-spot areas where truck drivers cannot see other vehicles.
200. **Nystagmus** – rapid, involuntary movement of the eyes as a person gazes to the sides.
201. **Odometer** – indicator that measures total distance a vehicle has been driven.
202. **Off-the-Road-Recovery** – safely returning the vehicle from the shoulder of the road to the proper lane.
203. **Oil filter** – device that cleans dirt from the oil in the engine’s lubricating system.
204. **Oil-pressure gauge** – gauge or light that shows the pressure at which the oil pump is forcing oil to the moving parts of the engine.
205. **Oil pump** – pump that moves oil from the oil pan to parts of the engine needing oil.
206. **One-way-street** – a street on which all traffic moves in the same direction.
207. **Optional equipment** – one or more extra features that a car buyer is not required to take.
208. **Orderly visual search pattern** – process of searching or scanning critical areas in a regular sequence.
209. **Overdriving headlights** – driving at a speed in which the stopping distance exceeds the area lit by the headlights.
210. **Overpass** – a bridge that carries one roadway over another; also a bridge that carries railway tracks over a street or highway.
211. **Oversteering** – too much movement of the front of a car to the inside of a turn.
212. **Overtaking** – passing a vehicle on a one-lane road.
213. **Over-the-counter drug** – drug that can be legally obtained without a prescription.
214. **Owner’s manual** – a booklet giving the vehicle owner detailed information about the vehicle and instructions for its operation.
215. **Parallel parking** – parking so that a given car is in line with a group of cars arranged one behind the other, parallel to and close to a road edge.
216. **Park** – the reading on the selector quadrant, which shows that the transmission is locked.
217. **Parking brake** – a manually set brake used when the car is parked to keep it from rolling.
218. **Parking lights** – lights that come on in the front of a vehicle when the light switch is pulled out halfway or turned partially.
219. **Partially controlled intersections** – intersections where at least one approach is regulated by a stop or yield sign.
220. **Passive restraints** – safety devices that help prevent occupants from striking the dashboard or windshield in a collision; they operate without requiring any action by either driver or passengers.



221. **Pavement markings** – yellow or white markings painted onto the road surface that help to regulate traffic, define lanes, and warn of possible dangers.
222. **Pedestrian** – a person traveling on foot rather than in an automobile or on a motorcycle, bicycle, or other vehicle.
223. **Pedestrian signals** – signals that guide pedestrians across traffic paths.
224. **Peer pressure** – forceful influence of friends on a person's actions for the sake of group acceptance.
225. **Perception distance** – distance a car travels during the time a driver sees and identifies an object or situation ahead.
226. **Perception time** – the time it takes to identify, predict, and decide.
227. **Performance Based Instruction** – an instructional program designed to accommodate varying levels of knowledge and driving ability whereby students are rated on satisfactory completion of basic driving competencies.
228. **Peripheral vision** – side vision, the outer edges of one's field of vision.
229. **Point of no return** – point beyond which a driver can no longer stop safely without entering the intersection.
230. **Policy** – contract or agreement between a vehicle owner and an insurance company specifying the amount and type of insurance coverage for which a premium is paid.
231. **Posted speed limit** – the maximum speed limit considered safe for the road and traffic conditions; shown on a road sign.
232. **Power assisted brakes (power brakes)** – brakes that make it easier to slow or stop by increasing the pressure beyond that exerted by the foot.
233. **Power steering** – a system of steering in which the front wheels are turned by a force supplied by an extra (auxiliary) source of power, together with the regular force provided by the driver.
234. **Predict** – the third step of the S IPDE process in which a driver evaluates how and if a situation may affect him or her.
235. **Premium** – the payment made by a vehicle owner to the insurance company for its policy.
236. **Prescription drugs** – drugs that can be purchased legally only when prescribed by a doctor.
237. **Preventive maintenance** – inspection and servicing of vehicle systems to prevent costly repairs or breakdowns.
238. **Prohibitory signs** – signs that tell you what you cannot do. They consist of a black symbol crossed by a red bar and enclosed in a circle.
239. **Property damage liability** – insurance that provides financial protection in case you damage the property of other persons.
240. **Pumping the brake** – applying pressure on the brake pedal, then releasing it, and repeating the action.
241. **Push-pull-feed steering** – steering method in which the driver's hands do not cross when turning.

- 242. **Race** – to run at high speed: said about an engine.
- 243. **Radial tires** – tires constructed with plies running straight across the tire from one side to the other and encircled by belts of nylon or steel material.
- 244. **Radiator** – container where water is stored and cooled before it circulates around the engine.
- 245. **Ramps** – those portions of a roadway, usually banked, that are used for entering or exiting an expressway.
- 246. **Rate of acceleration** – the time it takes to accelerate from a stop or from one speed to another.
- 247. **Reaction distance** – distance a vehicle travels during reaction time.
- 248. **Reaction time** – length of time you take to execute your action.
- 249. **Recreational vehicle** – vehicles, such as campers or motor homes, used for traveling and recreational activities.
- 250. **Red X** – a signal light hung over a lane of traffic to indicate that the lane is closed to traffic facing the sign.
- 251. **Regulatory sign** – sign that informs highway users of traffic laws or regulations and indicates requirements to perform in a certain manner.
- 252. **Restraint devices** – and device, such as a safety belt, that checks the movement of a car occupant at the time of a sudden stop or a collision.
- 253. **Reverse** – the gear used for backward movement.
- 254. **Revocation of license** – cancellation by the state of a legal permit to drive a vehicle.
- 255. **Riding the brake** – driving with a foot on the brake pedal so that the brake lights remain on and the brakes are partially applied.
- 256. **Right-of-way** – the right of a vehicle or pedestrian to go first, before other traffic moves, when there is a conflict. It is granted by law or custom.
- 257. **Right-turn-on-red** – turning right when the red signal is on unless specifically prohibited to turn.
- 258. **Risk** – a potential danger.
- 259. **Road rage** – strong emotion that leads to negative forceful driving.
- 260. **Roadway markings** – markings on pavement separating lanes of travel or indicating what a driver may do.
- 261. **Roadway users** – people who use the HTS by walking, driving, or riding.
- 262. **Route marker** – a sign indicating the number of a highway, the shape and color of the sign depend on the kind of highway.
- 263. **Rumble strip** – a section of rippled concrete that alerts drivers to slow or stop.
- 264. **Safe path of travel** – path that is free of hazards and conflicts.
- 265. **Safety belt** – a belt anchored to the vehicle frame. It prevents the passengers from being thrown against parts of the interior of the vehicle or being thrown from the vehicle in the event of a collision.

266. **Safety chains** – chains linking a vehicle and the trailer being towed. They serve as a safety device in the event the trailer hitch breaks loose.
267. **Safety helmet** – a protective head covering worn by motorcyclists and bicycle riders.
268. **ScanningSearch** – The first step of SIPDE where you examine the area around your vehicle for possible hazards.
269. **School zone** – portion of a street or highway near a school that is subject to special speed limits set by state law or local ordinance.
270. **Selector lever** – device in an automatic transmission car used to select forward or reverse gears.
271. **Separate** – process of adjusting the speed of a vehicle to handle one hazard at a time when two or more hazards threaten a driver.
272. **Shift** – to change (gears) by means of a mechanism.
273. **Shift indicator** – device on a car that shows the different driving gears and the one being used.
274. **Shoulder** – the off-road area running along the edge on either side of a road.
275. **Sideswipe** – to strike (another vehicle) along the side while trying to pass it.
276. **Sight distance** – distance a person can see ahead.
277. **Simulation phase** – the phase that is designed to assist the student driver in acquiring the necessary procedural, perceptual, judgmental, and decision-making skills for safe driving.
278. **Skidding** – loss of control over the direction in which your car is moving.
279. **Slow-moving vehicle** – farm or construction vehicle that cannot reach highway speeds, usually identified by an orange triangular sign at the rear of the vehicle.
280. **Smith System** – organized method designed to help drivers develop good seeing habits by using five rules for safe driving.
281. **Solid white line** – roadway marking to divide traffic going in same direction.
282. **Solid yellow line** – roadway marking to divide traffic going in opposite directions.
283. **Space cushion** – open area all around a vehicle consisting of adequate following distance between it and the cars ahead and behind, plus swerve paths to the left and right.
284. **Space margin** – the amount of space around a vehicle, separating it from possible sources of danger in traffic.
285. **Spark plug** – a device in a cylinder head of an engine that ignites the mixture of fuel and air by means of an electric spark.
286. **Speed zoning** – surveying roads to determine the speed that is appropriate for the road under normal conditions. Since one speed limit may not meet the conditions on all sections of a road, the road may have varying speeds posted along the different sections.
287. **Speedometer** – a gauge that shows how fast a vehicle is moving, in miles per hour or in kilometers per hour.

288. **Springs** – devices that support the vehicle to allow and help control up-and-down bouncing.
289. **Stale green light** – a green light on a traffic signal that has been on for some time and will soon change to red or yellow.
290. **Standard equipment** – those parts of an automobile that the owner must take, and pay for, when buying a car.
291. **Standard transmission** – a system in which gears are selected manually by using the gearshift lever and the clutch pedal.
292. **Start** – the position to which the ignition switch is turned in getting the engine to begin running.
293. **Statutory limits** – legal speed limits, established by law unless otherwise posted. (30 MPH urban – 55 MPH rural)
294. **Steering column lock** – the locked condition of the steering wheel when the ignition switch is in the lock position.
295. **Stimulant** – drug that speeds up the central nervous system.
296. **Stop lines** – solid white strips across lanes controlled by a signal or stop sign.
297. **Stop signs** – an 8-sided sign, with white letters on red. It means: “Come to a full stop and do not move until it is safe to do so.”
298. **Stopping distance** – the total distance required to stop a vehicle. Perception distance plus reaction distance plus braking distance equals total stopping distance.
299. **Suspension of license** – withdrawal by the state of a person’s license for a given period of time.
300. **Synergy** – the multiplied effect of combining two or more drugs. This includes combinations of alcohol, prescription and non-prescription drugs.
301. **Tailgating** – following a vehicle too closely.
302. **Taillights** – red lights on the rear of a vehicle. They turn on when the headlights or parking lights are turned on.
303. **Temperature gauge** – the gauge or light that warns you if the engine temperature goes above a safe level.
304. **Thermostat** – automatic device for regulating temperature of the coolant in the cooling system.
305. **Three/four seconds plus** – rule to determine the safe following distance recommended for low visibility conditions.
306. **Three-point turn** – a turnabout made in the street by turning left, backing to the right, and then moving forward.
307. **Time-and-space gap** – the distance separating a vehicle from the vehicle directly ahead of or behind it.
308. **Title** – legal proof of vehicle ownership.
309. **Tire chains** – devices placed over the tire tread to increase friction when driving on roadways covered with snow and ice.

- 310. **Total stopping distance** – total distance it takes to stop a car. Total stopping distance includes perception distance, reaction distance and braking distance.
- 311. **Towing** – pulling of one vehicle by another.
- 312. **Tracking** – keeping a vehicle steadily and smoothly on a desired course by making the necessary steering corrections.
- 313. **Traction** – the friction (between a vehicle's tires and the road surface) that keeps the wheels from slipping or skidding.
- 314. **Traffic** – the flow of all motor vehicles and pedestrians along the streets and the highways.
- 315. **Traffic-activated signals** – system in which traffic signals automatically give the green light to vehicles that trigger a sensor.
- 316. **Traffic-control devices** – the signs, signals and markings used in the highway transportation system.
- 317. **Traffic signal** – any signal used to control the movement of traffic.
- 318. **Transmission** – mechanism that transmits power from the engine to the drive wheels.
- 319. **Tread** – grooved surface of a tire that grips the roadway.
- 320. **Trip odometer** – an odometer that can be reset to zero; used to determine the distance driven over a particular period.
- 321. **Tune up** – process of checking, repairing, and adjusting various parts of the ignition and fuel systems to obtain maximum engine performance.
- 322. **Tunnel vision** – a narrow field of vision.
- 323. **Turn signal** – a directional signal.
- 324. **Twelve-second visual lead** – the technique of centering one's vision on the highway to where his or her vehicle will be in 12 seconds in order to identify hazards.
- 325. **Two-point turn** – a turnabout made by first backing into a driveway or alley. It can also be made by heading into an alley or driveway and then backing into the street.
- 326. **Two-second interval** – the minimum following distance for vehicles under ideal conditions.
- 327. **Uncontrolled intersection** – an intersection that has no signs or signals regulating it.
- 328. **Uncontrolled railroad crossing** – railroad crossing at which there are no signals or crossing gates.
- 329. **Underinflated** – having too little air pressure: said about tires.
- 330. **Uniform Motor Vehicle Code** – vehicle laws recommended by a national committee and used in part by all states.
- 331. **Uninsured motorist insurance** – covers costs up to a certain amount if you are struck by another vehicle whose driver has no insurance.
- 332. **U-turn** – a turnabout carried out by a full U-shaped left turn.

- 333. **Utility vehicle** – a four-wheel drive vehicle.
- 334. **Vehicle code** – organization of federal and state laws that regulate the HTS.
- 335. **Vehicle registration** – required licensing procedures for motor vehicles.
- 336. **Velocitization** – the sensation of moving more slowly than one actually is, usually experienced when exiting a highway or expressway.
- 337. **Violation** – a breaking of a law.
- 338. **Visibility** – the distance and area a driver can see. Also the ability of a vehicle or pedestrian to be seen.
- 339. **Visual acuity** – sharpness of eyesight.
- 340. **Visual lead time** – the distance ahead to which a driver should be scanning and which the vehicle will reach in a given time.
- 341. **Warning sign** – yellow sign, either diamond-shaped or round, with black letters or symbols that warns drivers or potential hazards ahead.
- 342. **Warranty** – a written guarantee that a maker will replace or repair defective parts for a certain amount of time to number of miles a vehicle is used.
- 343. **Water pump** – pump that circulates water through the radiator and the engine block.
- 344. **Wear bars** – tread-wear indicators built into tires that appear when tread depth in about 1/6 inch.
- 345. **Wheel alignment** – mechanical lining up of a vehicle's front wheels.
- 346. **Wolf pack** – group or formation of vehicles traveling on an expressway.
- 347. **Y-turn** – a turn made by turning left as sharply as possible until the front wheel approached the opposite curb, backing the car, straightening it, and then proceeding forward.
- 348. **Yellow arrow** – used on a traffic signal to indicate that movement in that lane is about to end.
- 349. **Yield** – allow another vehicle or other roadway user to proceed first.
- 350. **Yield sign** – a red and white triangular sign that tells a driver to be ready to give up the right of way to another highway user. It means: "Be prepared to stop or slow down."
- 351. **Zero tolerance** – the allowance of no alcohol content in the blood (anything from 0.00 to 0.02 percent BAC).